American Aviation

25c *The Magazine of Air Transportation* May 1, 1949

RECEIVED 4 MAY 1949

Keep Out Politics

IT IS HIGH TIME the light airplane be put to work carrying the U. S. mail—if the peril of politics can be avoided.

The Post Office Department has asked Congress for approval to award contracts on bid for air star routes. If Congress approves, a new utility field is open for the single-engine airplane. This means more business for local operators, more activity for pilots, and better mail service for isolated areas of the country.

by W. W. P.

Air star routes also mean an important precedent in the carrying of all classes of mail—another step in the general direction of all-first-class-mail-by-air. Star route mail, as contrasted with premium-charge air mail, consists of all classes of mail from parcel post to newspapers and first class mail.

Up to now the Post Office has used every type of transportation from the dogsled and river boat to the horse and wagon and motor truck, but except for two small routes in the Great Lakes area, and in Alaska, the airplane has not been utilized. Yet the airplane is the most efficient vehicle for conquering the very terrain or isolation factors from which star routes are born.

An air star route in itself is a small operation. But hundreds of small routes would bulk into a substantial business activity for aviation's equipment and services. A star route might well be the backbone of a local operator's existence and it might, too, develop a substantial air taxi service as a direct result of a daily mail operation.

We have decried from the start the hasty manner in which the CAB leaped into feeder airline expansion after the war. Numerous areas and communities certificated to receive twin-engined passenger-mail-cargo service might well have been served initially by single-engined mail service, much in the manner that the air transport system today developed from contract mail service. In this respect we bow to our contemporary *Southern Flight* which has been battling for single-engine transport and mail service for the past year or two.

Much as one can endorse the principle of air star routes, however, there is a dark side to the current proposal by the Post Office Department which

(Turn to Page

Makes Contract Carrier Pay

Orvis M. Nelson, former United Air Lines captain and now president of Transocean Air Lines, is the driving force behind his company's highly successful world-wide contract operation. Nelson believes that Transocean's role is to supplement rather than compete with scheduled airlines. See story on page 18.

Starting This Issue

AIRPORTS and AIR CARRIERS

See Page 41

REFERENCE COPY

OTHER AMERICAN AVIATION PUBLICATIONS

NO. 36 IN THE SERIES FEATURING PROMINENT ESSO AIRPORT OPERATORS

All Three Agree!

ESSO

1 **"BECAUSE OF OUR CONFIDENCE** IN ESSO PRODUCTS WE DECIDED ON ESSO AVIATION FUELS AND LUBRICANTS EVEN BEFORE OUR PRESENT MODEL HELICOPTER WAS READY TO FLY."

George Townson, Test Pilot (Left)
Helicopter Engineering Research Corp.
Philadelphia, Pa.

2 **"THOSE ESSO WINGS** ARE A WELCOME SIGHT TO ME. I'VE USED A PLANE FOR SEVERAL YEARS—FLYING ALL OVER THE EAST...AND I'VE NOTICED MANY OF THE AIRPORTS THAT PRIDE THEMSELVES ON GIVING SERVICE BACK IT UP WITH ESSO AVIATION PRODUCTS."

James R. Affleck (Center)
William Penn Flour Mills Co.
Philadelphia, Pa.

3 **"15 YEARS AGO** I CHANGED FROM 'SPORTSMAN FLIER' TO 'COMMERCIAL OPERATOR'... AND ESSO HAS BEEN MY FIRST CHOICE RIGHT FROM THE START. TODAY, I FEEL ESSO AVIATION GASOLINE AND OILS HAVE CONTRIBUTED GREATLY TO OUR HIGH SAFETY RECORD AND LOW MAINTENANCE COSTS FOR FIVE YEARS, AND OVER 50,000 HOURS OF C.P.T. AND W.T.S. PROGRAMS. WE NOT ONLY SELL ESSO AVIATION PRODUCTS AT OUR FIELDS... WE URGE OUR CUSTOMERS TO STOP AT FIELDS WHERE THEY SEE THE ESSO SIGN."

Richard Bircher, Airport Operator (Right)
Boulevard Airport
Philadelphia, Pa.

YOU CAN DEPEND ON

ESSO

AVIATION PRODUCTS
SOLD IN THE 25 STATES INDICATED

Last word in Comfort — on the Stratocruiser

Boeing says, "—it's like floating on a cloud," riding aboard their new queen of the skies — the Stratocruiser. That's because every seat on this luxury liner, from "front office" to ultra-modern lower-deck lounge, is completely cushioned in **Airfoam** — Goodyear's amazing latex super-cushioning. **Airfoam's** millions of tiny air cells provide full, buoyant, restful comfort—ease flight fatigue. **Airfoam** lasts the life of the ship—cuts costly seat repairs and maintenance. For complete details about this modern cushioning material, write:

Goodyear, Aviation Products
Division, Akron 16, Ohio
or Los Angeles 54, California.

We think you'll like
"THE GREATEST STORY EVER TOLD"
Every Sunday—ABC Network

GOODYEAR
AVIATION
PRODUCTS

Airfoam—T. M.
The Goodyear Tire & Rubber Company

MORE AIRCRAFT LAND ON GOODYEAR TIRES, TUBES, WHEELS AND BRAKES THAN ON ANY OTHER KIND

News in Brief

Guy W. Vaughan, chairman of the board of Curtiss-Wright Corp., retired as an officer and director of the corporation on April 20. He had served as president and chairman for 14 years. No successor as board chairman was announced, but William C. Jordan was re-elected president.

Pan American Airways has inaugurated Boeing Stratocruiser service out of New York International Airport (Idlewild) for Bermuda, despite the fact that the contract dispute between airlines and Port Authority has not been settled. A Port Authority spokesman had previously stated that "nobody denies that under their original leases (with the city in 1945, subsequently assumed by the Authority) they can go into Idlewild tomorrow with their Stratocruisers."

Trans-Texas Airways has petitioned CAB to rescind its tentative order proposing to end TTA's certificate on May 13, 1950, and asked the Board to extend the certificate for a one-year period from that date "to allow a full three-year test period."

State Airlines has asked CAB to issue to it the feederline certificate which the U. S. Court of Appeals for the District of Columbia recently held was awarded erroneously to Piedmont Airlines. CAB has countered with a motion requesting the Court to hold up for 30 days issuance of its "mandate" putting the Court findings into effect. The delay would allow time for filing an appeal to the Supreme Court. Piedmont was also expected to ask the Court of Appeals to stay its mandate.

Coach service tariffs of TWA using Boeing Stratoliners and 24-passenger DC-3's east of Kansas City have been suspended by CAB for 90 days from May 1. Similar tariffs of Northwest Airlines proposing coach service by Martin 2-0-2's from Minneapolis-St. Paul to Washington have been suspended 90 days from April 21 and company's proposed Chicago-Minneapolis coach service 90 days from May 1.

New international air postage rates, cheaper than air mail or air parcel post, will be put into effect May 1 by the Post Office, covering such items as printed matter, commercial paper, samples, and small packages. They will apply to 36 European, African, and Asiatic countries.

Mail rates may not be adjusted retroactively by CAB for periods in which a final rate has been in effect and unchallenged by the carrier, according to ruling of the Supreme Court on April 18. The Court's decision ended the long legal battle fought by TWA against a CAB ruling that it could not change a rate for a period prior to the date the airline filed for an adjustment.

Bellanca Aircraft Corp. has developed a new four-place personal plane, the "Cruisemaster", powered by a 190-hp Lycoming engine. It is now undergoing CAA certification tests.

The Douglas C-124 has been selected by the Air Force as the major four-engined replacement for C-54's now wearing out. Douglas is now working on initial order of 28, with prototype to fly in November, and AF funds have been allocated for further production in fiscal 1950.

BACKGROUND & TRENDS

Among the Airlines

Idea of **quick, feederline-type stops** is spreading. American Airlines is now using the idea at several smaller stations on Convair schedules. One engine remains running, and stops are cut to about five minutes. . . . **Airline traffic** continued to show a very nice in-

(Turn to page 6)

American Aviation

The Magazine of Air Transportation

Vol. 12 No. 23 ABC **May 1, 1949**

1025 Vermont Ave., N.W. Washington 5, D. C.
Telephone—STerling 5400 Cable—AMERAV

Includes AIRPORTS and AIR CARRIERS

Editor and Publisher
WAYNE W. PARRISH

Editorial Board:

ERIC BRAMLEY, *Executive Editor* — DAVID SHAWE, *Chairman* — LEONARD EISERER, *Managing Editor*
KEITH SAUNDERS, *Assistant to the Managing Editor*
WILLIAM D. PERREAULT, *Operations and Maintenance Editor*
ROBERT C. BLATT, *Airport Editor*

Editorial Associates: Gerard B. Dobben, Clifford Guest, James J. Haggerty, Jr., Fred S. Hunter, Daniel S. Wentz II.

Director of Advertising: Stephen R. Kent
Business Manager: John H. Poole.

American Aviation is published 1st and 15th of each month by American Aviation Publications, Inc., Washington, D. C. Printed at the Telegraph Press, Harrisburg, Pa. Subscription rates for United States, Mexico, Central and South American countries—$3.00 for 1 year; $5.00 for 2 years. Canada—$3.50 for 1 year; $6.00 for 2 years. All other countries—$4.50 for 1 year; $8.00 for 2 years. Entered as Second Class matter in Washington, D. C., and Harrisburg, Pa.

Publishing Corporation: American Aviation Publications, Inc., Wayne W. Parrish, president; Albert H. Stackpole, Eric Bramley, David Shawe, vice presidents; E. J. Stackpole, Jr., secretary-treasurer; John H. Poole, assistant secretary-treasurer.

West Coast Office: Park Central Building, 412 West Sixth St., Los Angeles 14, Calif. Trinity 7997. Fred S. Hunter, manager.

AMERICAN AVIATION incorporates Airports and Air Carriers, Airports, Aviation Equipment, The American Pilot, Aviation Sales and Service, U. S. Aviation and American Airports. All rights to these names are reserved.

Other Publications

American Aviation Daily (including International Aviation): Published daily except Saturdays, Sundays, and holidays. Subscriptions: $16 one month; $180 one year. Clifford Guest, managing editor.

American Aviation Directory: Published twice a year, spring and fall. Single copy $5.00. Dallas R. Long, managing editor.

Official Airline Guide (formerly American Aviation Air Traffic Guide): Monthly publication of airline schedules, rates and regulations. Subscriptions: U. S. A and countries belonging to the Pan American Postal Union, including Spain and the Philippines, $9.00 one year; Canada $9.50. All other countries $11.00. Published from editorial offices at 139 North Clark St., Chicago 2, Ill. State 2-2154. C. N. Johnson, production editor.

INDEX

Airline Commentary	27	Letters	58
Airports	41	Local Operations	47
Aviation Sales & Service	49	New Products	38
Background & Trends	4	Operations and Maintenance	29
Between the Lines	24	Over the Counter	51
Books	58	People	26
Calendar	20	Production Spotlight	25
Editorial	1	Traffic and Sales	50
Extra Section	37	Wings of Yesterday	58
Index to Advertisers	58		

OFF TO NEW RECORDS

▸ The *news behind the news* of recent record flights by the U.S. Air Force's heavy bombers is . . .

1) **most of these four-engine planes are equipped with Curtiss-Wright Electric Propellers.**

2) **the selection of these propellers is a result of Curtiss-Wright's wide background and continuing leadership in propeller design.**

▸ With Curtiss-Wright equipment...

The *Lucky Lady II*—giant B-50—flew 23,412 miles non-stop around the world.

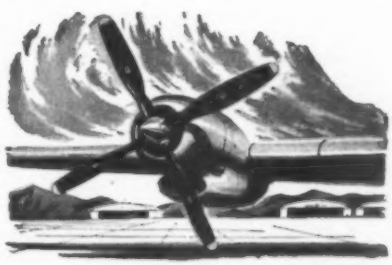
The *Pacusan Dream Boat*, B-29, flew non-stop across the arctic, Honolulu to Cairo.

The *Enola Gay*, B-29, dropped the first A-Bomb on Hiroshima.

▸ The B-50 propeller has four blades, is 16 feet, 8 inches in diameter and provides *electrical de-icing, reverse thrust, automatic synchronization, hollow steel blades* and *selective fixed pitch* . . . features Curtiss-pioneered and *service-proved* on *record* flights.

▸ The selection of Curtiss Propellers for the U.S. heavy bomber fleet highlights their performance on all types of military aircraft.

▸ All Curtiss-Wright Propellers are products of the versatile knowledge and skill acquired through many man hours of engineering and building propellers for airplanes ranging from single engine fighters to multi-engine giant bombers and transports.



CURTISS ELECTRIC PROPELLERS

PROPELLER DIVISION • CALDWELL, NEW JERSEY

A DIVISION OF CURTISS-WRIGHT

BACKGROUND & TRENDS

(*Continued from page 4*)

crease throughout April. Traffic men believe increase can be attributed in large part to industry's excellent safety record during the past winter.

Capital Airlines' air coach service is doing better than the best expectations. For competitive reasons, company isn't issuing any more detailed figures on the coach operation. . . . U. S. airlines on the Atlantic hauled 393,000 lbs. of **international air parcel post** during the first year of this new service, adding substantially to revenues. The service was one year old Mar. 15. For all sectors (Latin America and Pacific didn't start until Sept. 14) total poundage was 464,114. . . . The **fourth Railway Express Agency tie-up** in New York City in two years has just ended. Each time a strike occurs more and more shippers who turned to air cargo in the emergency shut-down remain with the air service when the express embargo is ended. The latest embargo was no exception—many permanent users of air cargo developed.

Three Convairs built for **FAMA, Argentine airlines,** are stored in a hangar at Marfa, Tex., airport. . . . **United Air Lines** has summed up various types of public assistance given to railroads over the year, and comes up with a total of $2,244,482,350. UAL says the summary is in reply to recent railroad ads "and railroad-sponsored editorials purporting to point out that the railroads have fought their battle single-handed and without the aid of subsidies, while airlines and other forms of transportation have enjoyed all manner of federal and state subsidies".

Transport Tax and Oleo

The 15% transportation tax, which U. S. airlines want repealed, is now mixed up in a long-standing political squabble over taxes on oleomargarine, and what will happen is anybody's guess. Sen. Ed Johnson (D., Colo.) has offered an amendment to the oleomargarine tax repeal bill which would remove certain wartime excise taxes provided for in 1943 legislation. This would have the effect of reducing the transportation tax from 15% to 10%. However, it would face a terrific battle in the House-Senate conference, and transportation groups are wary about supporting it actively. Oleo taxes have been kicked around for years, and getting the transport tax involved in a repeal bill won't help the latter any. Meanwhile, the U. S. tax looks slightly ridiculous with people going into Canada and buying thousands of dollars worth of airline tickets tax free (see story elsewhere).

Feeder Profit

While the feederlines showed an aggregate net operating profit of $361,000 for calendar 1948, air mail revenue accounted for $10,910,000 or 68% of the total $15,922,000 operating revenues. Of those in operation for entire year, Pioneer showed lowest percentage of mail revenue (51%), and returned $250,000 operating profit. For company-by-company results, see page 53.

Airport Tours

A guided tour of Washington National Airport is now available, handled by the same company that started a similar tour at LaGuardia Field about a year ago—Aeronautical Exhibits Inc., headed by George Harris. The tours take the public behind the scenes, impress upon their minds that airline flying entails more work and sweat than glamour, and leave them pretty well sold on safety. Opinion is that the tours are an excellent selling aid for the airlines. Between 80% and 90% of the "tourists" have never traveled by air, and they get a close-up look that gives them the urge to fly. Guides are carefully chosen, most of them being college graduates or college students. Probably three or four full-time guides and 12 to 15 part-time guides will be used at Washington. Elementary groups and scouts are handled for 35¢ each, while high school and college students are charged 75¢, tax included. Regular price is $1 plus tax for adults, and 50¢ plus tax for children. The tour idea will probably spread to other terminals.

No Change at Teterboro

Contract, non-sked and personal plane users of Teterboro (N. J.) Airport are happy over N. Y. Port Authority's statement that Teterboro will be exempted from the regulations under which it operates La Guardia, Idlewild and Newark. Frederick L. Wehran, who sold the field to the Authority, will remain in charge and operate under same general practices as before, at least until it's decided to develop it into a major airline terminal.

People

Oswald Ryan was confirmed by the Senate for another six-year term on the Civil Aeronautics Board and **C. V. Whitney** to be Undersecretary of Commerce. . . . **Eddie Rickenbacker,** president of Eastern Air Lines will visit Sao Paulo, Brazil (date not set) as a guest of the state to inspect operations of VASP (Viacao Aerea Sao Paulo) and newly-acquired Aerovias Brasil. He'll advise the Brazilian carrier on operational matters, and particularly on how to put Aerovias in the black . . . CAB has approved an interlocking relationship allowing **Ralph S. Damon** to serve as a director of Goodyear Tire & Rubber Co. while serving as president and a director of TWA . . . **Damon** and TWA board chairman **Warren Lee Pierson** called at the White House Apr. 21 for a talk with President Truman. . . . **Miss Carlene Roberts,** assistant vice president of American Airlines, is now responsible for AA's Washington administrative office, and reports to **C. W. Jacob,** secretary and assistant to the president . . . **Samuel J. Solomon,** former president of Northeast Airlines and later head of Atlantic Airlines, and **Sol. W. Voorhes,** one-time European sales manager for Lockheed and later in the aircraft sales business in Switzerland, are associated in Washington representation and consulting work. Offices are in the Tower Bldg., Washington, D. C. . . . **W. W. White,** vice president and head of the aviation department of Esso Export Corp., recently returned from a three months trip through Central and South America. Internal air services in those areas have grown tremendously, and where currency situations permit, airlines are buying five to eight place U. S. planes to supplement their larger types, he said.

A Busy Man

Not many in aviation know it, but the president of Monarch Air Lines, **Harold S. Darr,** is also president of Scott Radio Laboratories, Inc. of Chicago, makers of fine radios and the finest television set. Hal Darr is an old, old hand at aviation, having operated a big Air Force training school during the war. He bought the Scott company a few years ago and has perfected an exceptionally good television set with a big 116 sq. in. screen, no glare and no distortion. His aviation friends swear it's by far the best set on the market. Between his Chicago firm and the airline, Hal Darr manages to keep occupied.

Welcome

With this issue AMERICAN AVIATION welcomes a new group of readers and launches an expansion to provide a broader type of editorial service for the commercial interests which offer aviation to the public.

Starting with this issue former subscribers to the magazine *Airports and Air Carriers,* which we purchased last month, will be served by AMERICAN AVIATION for the maximum period allowed by the Audit Bureau of Circulations.

Our new readers will find special sections devoted to their interests in this and each future twice-monthly issue of AMERICAN AVIATION. They will also find throughout the magazine a wealth of related information which should be a part of their knowledge of commercial aviation.

Our plan is to expand these sections over the coming months to a point where we are providing airport people and local operators with the type of thorough, accurate and interesting coverage which has established AMERICAN AVIATION's reputation as the leading magazine in air transportation.

To fulfill our new responsibilities we have retained Robert C. Blatt, widely-known editor of *Airports and Air Carriers,* to serve as our Airport Editor. We have also expanded the assignments of certain members of our own large editorial staff.

In welcoming our new readers we extend to them an invitation to join us not only as readers but as participants in the growth of commercial aviation. You are welcome at any time to tell us what we can do to serve you best.

WAYNE W. PARRISH
Editor and Publisher

EDITORIAL

(CONTINUED FROM PAGE 1)

must bear close watching by aviation interests. In the background is a determined effort by one or two officials of the Post Office Department to keep the Civil Aeronautics Board from getting regulatory control over the air star routes. More than that, the P.O. would like to wrest control from the CAB over the helicopter routes certificated for Los Angeles and Chicago.

There is good reason to believe that the vigorous opposition to helicopter mail routes in Chicago and New York by Paul C. Aiken, Second Assistant Postmaster General, has its origin in the desire by Aiken to regain for the Post Office Department all control over exclusive mail services by air whether they be helicopter or star routes.

Mr. Aiken is a politician and a rather young one at that. He is a newcomer to top-level Washington politics. He is also strictly a newcomer to aviation. If he has not read the volumes of testimony of the Black investigation in the Senate in those disastrous airmail years of 1933-34, he should do so. He might also find in the three-year legislative history of the Civil Aeronautics Act additional information about the evils of air mail under the highly political Post Office Department.

Along with everybody else in aviation, we want air star routes because we believe the light airplane should be utilized more and more for such purposes. But we staunchly oppose a return to the kind of political domination over air service which preceded the creation of the CAB. We suspect Mr. Aiken has more in mind than appears on the surface of his efforts to get approval for air star routes. We believe it would be a grave error to oust the CAB from its over-all regulatory control of air service of all kinds.

Why is it not logical for the Post Office to maintain complete control over all exclusive mail service by air? The chief reason is politics—the using of these air services as political plums. The original airlines were pawns in a political game until the CAB was created. But another important reason is that air star routes and helicopter services often can develop into passenger services and such development can only be carried out under the CAB. Complete P.O. control may mean a dead-end. Control of the CAB offers flexibility of service to the public and the potentials of expansion.

It is natural that the Post Office should want to control the transport units that carry the mail, but the P.O. is apt to overlook the potentials inherent in the airplane. Mail is but one service that can be offered. Wherever an airplane is operating, that airplane is part of a national system of transportation vital to the national defense of this country. Congress created the CAB to regulate and encourage this broad new form of transportation. It would be unwise to have dual systems of control.

We need air star routes. We need to put light airplanes to work. But let this projected expansion come within the framework of the Civil Aeronautics Act and not as a political sideline of the Post Office Department.

Who Pulled the Plug?

ON APRIL 4 the CAB issued a show cause order as to why the 3-year certificate of Trans-Texas Airways should be renewed beyond May, 1950, but the order went far beyond merely asking the legal question. It drew a tentative conclusion that TTA should definitely be terminated. Yet the airline only got into full operation March 6 and only got a traffic and sales department organized in March.

When the Board issued its order there was a note appended to the official document stating that appendices were being reproduced and would be available later. The appendices have been issued, but the only item referring to TTA is a map of its routes. No exhibits, no supporting evidence, no nothing. The Board thus admits publicly that it based a death sentence order on the basis of 11½ months partial operating statistics.

It is increasingly clear that the motivating force behind the TTA order has little if anything to do with law. But the unjudicial and peremptory order seemingly does concern morals and ethics. Just who within the CAB promoted this skirting of judicial procedure? Just who sponsored this miscarriage of justice? These questions have not yet been answered but it is plain that the order was more than just bungling and bumbling—it was calculatingly planned.

Short Takes

Colonial Airlines has achieved the notable distinction of completing 19 years of scheduled operation without a fatality or serious injury to passenger or crew members—certainly one of the high safety marks in the world. Congratulations to Colonial and to its president, Sig Janas not only for the record itself but for the phrase "Safety is No Accident" which Janas coined some years ago.

* * * * *

Curtiss-Wright Corp. a few weeks ago completed a 9-weeks tour of 15 major cities. It is the first aviation company to take to its stockholders and to the public an exhibition of air power. That more than 138,000 saw the exhibit is a tribute to the idea of acquainting the public with what's going on in the aviation industry.

* * * * *

An aviation newsletter has spotted a **significant trend in civil aviation**—the trend of privately-owned airplanes to the western states and away from metropolitan eastern centers. This trend verifies the predictions of many sound observers of civil aviation a decade ago—that solid growth would take place in the western states where the small airplane has greater utility. The newsletter is disturbed, however, over an apparent decline in the total number of lightplanes in operation. This year's production won't equal the annual attrition rate.

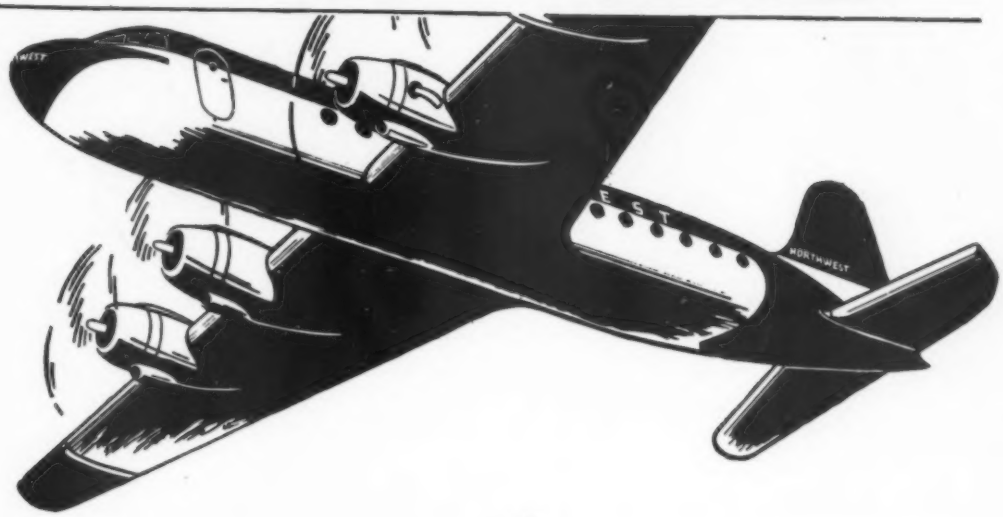
* * * * *

A much-revered concept in air transportation is that an **airplane costs money on the ground.** Keep it in the air—that was the slogan in the war days when traffic demands were high. But in these days that concept has a new twist. An airplane may cost more flying empty or nearly empty than it does sitting on the ground.

WAYNE W. PARRISH.

NEW LOW

COACH FARES



N.W.A. COACH SCHEDULE

WEST BOUND (Read Down)		EAST BOUND (Read Up)
Lv.-12:01 a. m.	New York (EST)	Ar.-5:25 p. m.
Lv.-3:40 a. m.	Detroit	Lv.-2:40 p. m.
Lv.-4:30 a. m.	Milwaukee (CST)	Lv.-11:50 a. m.
Lv.-6:50 a. m.	Minneapolis-St. Paul	Lv.-9:55 a. m.
Lv.-10:20 a. m.	Billings (MST)	Lv.-4:45 a. m.
Lv.-12:15 p. m.	Spokane (PST)	Lv.-1:05 a. m.
Ar.-1:45 p. m.	Seattle-Tacoma	Lv.-11:20 p. m.

N.W.A. COACH FARES

FROM— TO	New York	Detroit	Milwaukee	Minneapolis-St. Paul	Billings	Spokane	Seattle
New York		$21	$29	$41	$71	$88	$97
Detroit	$21		9	21	51	68	77
Milwaukee	29	9		12	42	59	68
MINNEAPOLIS ST. PAUL	41	21	12		30	47	56
Billings	71	51	42	30		18	27
Spokane	88	68	59	47	18		9
Seattle	97	77	68	56	27	9	

PLUS TAX

NORTHWEST *Orient* AIRLINES

GENERAL TRAFFIC DEPARTMENT, 1885 UNIVERSITY AVE., ST. PAUL

America must lead in aircraft design

In speed, range and load-carrying ability, America's newest military airplanes must continue to be superior to those of any other nation. Whether or not we have the biggest Air Force, world peace and national security demand that we have the best.

Our leadership in aircraft design has its roots in the national character and the democratic system of free competition. America's aircraft industry has attracted thousands of the keenest young men in the country. They combine soaring imagination with disciplined skill. Daily they dare the impossible—and make it work.

Why? Because our competitive system gives them incentive. Boeing engineers are constantly aware that they must exceed an alert, vigorous competition. Such incentive gave America the B-17 Flying Fortress and the powerful B-29 when they were most needed.

Any system that blunted that incentive would inevitably retard progress in the air.

Boeing is proud of its pioneering record in design, and of the engineering integrity that gives stamina to Boeing-built aircraft. Today's mighty B-50 Superfortress, the swift XB-47 Stratojet, and the C-97 Stratofreighter, like the famous B-17 and B-29, are pledges of still greater Boeing planes to come.

For the Air Force, Boeing is building the B-50 Superfortress, B-47 Stratojet, and C-97 Stratofreighter—for the Army, the L-15 Scout liaison plane—and for six major airlines, the twin-deck Boeing Stratocruiser.

BOEING

AMERICAN AVIATION

Established
June 1, 1937

American Aviation

Volume 12
Number 23

Air Star Routes: New Field For Local Operators?

By Eric Bramley

Legislation now before Congress to give the Post Office Dept. authority to operate an unlimited number of air star routes for the carriage of all classes of mail will, if passed, lead to the development of a system that may number 100 or more routes within a few short years.

And the man who stands to benefit most is the local operator. As Second Assistant Postmaster General Paul Aiken puts it, passage of the legislation will "open up a whole new field for the fellow who operates a small flying service."

Aiken isn't promising immediate establishment of 100 routes. Rather the air star route scheme will have "humble and small beginnings," he says. There are now two star routes in operation. If legislation passes at this session (and the chances are good), possibly four more lines would be added at once.

However, over a period of two or three years, there may well be 100 such operations. Tucked away in the Post Office files are reports from field personnel which indicate that there may be a need for that number of routes. For the time being, the reports will probably remain tucked away, for the PO wants to avoid pressure from local communities, at least until it has a law under which to work.

Two Bills Introduced. Specifically, the PO is seeking authority to operate air star routes in any section of the country where terrain makes surface transport impracticable, where surface transport is inadequate, and where the cost of air would not be too much out of line with surface. Aiken has wanted to increase the number of star routes for two years, but Congress took no action last year. Now, however, two bills have been introduced.

Rep. Tom Murray (D., Tenn.), chairman of the House Post Office and Civil Service Committee, has introduced H. R. 3842, and its companion in the Senate, S. 1597, was sponsored by Sen. Olin D. Johnston (D., S. C.), chairman of the similar Senate committee.

The bills are endorsed by the PO. They amend the 1938 act (39 U.S.C. 470) which provided for "experimental air mail services to further develop safety, efficiency and economy . . ."

That act limited air star routes to five in number, limited payments to 20c a plane-mile and routes to 200 miles, and specified that not over 150 lbs. of mail should be carried. The PO wants all these restrictions removed.

PO spokesmen point out that the 1938 act has the effect of limiting air star routes to places where surface transportation is virtually impossible. Regarding the clause limiting the number of routes to five, they state: "Star route service by aircraft, if justified at all, should be available wherever required regardless of the number of contracts awarded." The 20c per plane-mile limit is "out of line with present-day costs," they add.

Selection by Bids. Aiken says that the air star route will be used mostly in mountainous areas or in areas where water slows deliveries (the two routes now in operation are over water—one to an island in Lake Michigan, the other out into Lake Erie). However, he emphasizes that routes will not necessarily be restricted to such areas.

They may be used wherever the mail can be expedited without running up the PO costs. In other words, if it were found that mail could be considerably speeded up over a certain route, and the cost was the same or only slightly more than by surface, the chances are that an air star route would be established. All routes will be established on a bid basis, the award going to the lowest responsible bidder.

Almost any local operator will be in the running for routes, because there will be a need for all types of equipment. The PO will not exercise direct control over the type of planes to be used. However, in its invitations to bid, it will specify the poundage of mail to be carried on each route, and this, of course, will determine the size of planes. Aiken believes there will be need for all types of single-engined aircraft, and possibly something as large as a DC-3. All classes of mail will be carried—not just air mail.

Aiken sees a possibility of using air star routes in areas where the Civil Aeronautics Board might decide to discontinue feederlines. If there was a need for all-mail service in such a region, a star route might be the solution, he says.

No Subsidy. He adds the belief that there won't be any element of subsidy in air star routes. "There won't be any such thing as 'need' pay. Each route will go to the lowest responsible bidder. If the costs are way over surface, we wouldn't accept the bid."

All air star route proposals will be cleared with the CAB to make sure that they don't conflict with any routes which the Board has awarded or is about to award. And any star route contract would be canceled if CAB established regular service between the same points.

Present Routes. One of the air star routes now in operation is flown by Air Tours, Inc. The route is out into Lake Erie, from Port Clinton, O., to Kelly's Island, Put-in-Bay, Middle Bass

Cab over Engine— This is the Doman seven-passenger helicopter which features a 245 hp Franklin engine mounted at a 20 degree angle in the nose section. This insures a center of gravity which does not change, since the cargo or passenger load is located directly over the CG. Gross weight of the Pelican will be 3,200 pounds and useful load 1,400 pounds. Cruising speed will be 75 mph. The cabin, which will seat five passengers, has 156 cubic feet of unobstructed area which can be used in either cargo or seats. The first flight of the Pelican is expected in September with initial deliveries planned for early 1950 at a base price of around $20,000.

and Isle St. George, returning via Middle Bass, Put-in-Bay and Port Clinton. One-way mileage is 22.8, and frequency is six times weekly all year.

The company, which is reported to be using a tri-motored Ford, also operates seven times weekly from July 1 to Aug. 31 between Port Clinton, Kelly's Island and Put-in-Bay, returning direct to Port Clinton, distance of 16 miles. Port Clinton to Put-in-Bay direct is operated seven times weekly June 20 to June 30 and Sept. 1 to Sept. 5. Distance is 9.3 miles.

Air Tours, Inc. receives payment of 92c per airplane-mile for a base load of 250 lbs., with an additional 1c per mile for each 20 lbs. above the base. The company receives more than the 20c maximum provided by law under a provision which states that this maximum may be exceeded on "circuitous" routes of less than 75 miles.

The other route, flown by H. H. Bechtold, Jr., is a winter operation during the period when the power boat contractor cannot move his boat. This winter it operated from Feb. 5 to Mar. 31 from Pellston, Mich., to St. James, Beaver Island, in Lake Michigan. A twin-engined Cessna was used. Distance is 35 miles, and payment amounts to 40c a mile for 250 lbs. plus 4c for each 20 lbs. excess.

PO's Plan. Last year the PO wrote a memorandum covering its thoughts on air star routes. The memo saw little of the light of day, but the same thoughts are held by the PO today. It said, in part:

"There are a number of areas throughout the U. S. where the present postal service by surface transportation could be expedited and improved by the use of light aircraft to move all classes of mail. In some of these areas, because of the nature of the terrain, a light aircraft is the most practical vehicle for transporting mail under star route contracts.

"Since World War II many small operators of privately-owned aircraft have established flying schools and charter plane service throughout the country. Landing strips for lightplanes are almost everywhere available. It is believed that such operators would submit reasonable bids for the transportation of mail under star route contracts.

"The certification of air routes under . . . the Civil Aeronautics Act . . . is not justified in most of the areas herein considered because, when restricted to air mail bearing the air mail postage rate, the volume would not be sufficient to warrant the high cost of conventional certified service. On the other hand, if the service were obtained for all classes of mail at a competitive contract rate, the cost might be reasonable and fully warranted.

"Aside from the greatly improved mail service under contemplation, in some instances the cost of service by light aircraft flying the direct route of the skyways might compare advantageously with the cost of slower surface transportation plying tortuous and circuitous routes . . .

"The contract arrangement would be especially advantageous in cases where requirement exists for transportation of mail only, including all classes of mail, by aircraft and where there is little or no requirement for passenger service. In such cases the star route method . . . would have the advantages of economy and flexibility.

A year or so ago, Aiken had ideas about setting up an air star route on an experimental basis and inviting some of the lightplane manufacturers to operate it. Purpose would have been to gather facts and figures to support legislation. Chances are that such an experiment will not be conducted this year, however, because Administration-endorsed bills have already been introduced, and chances for passage are considered good.

Harry Meixell, executive director of the National Aviation Trades Association, stated that he expects NATA members will support the legislation. Wayne M. Weishaar, secretary-treasurer of the Aeronautical Training Society, has sent his members information on the bills and said that preliminary response indicates that ATS will back the proposal.

French Transport Test Flown— Shown above is France's answer to the demand for large transport aircraft. Known as the SE 2010, this four-engine transport was test flown for the first time on April 2, at Toulouse Airport. Built by the Societe Nationale de Constructions Aeronautiques du Sud-Est, the SE 2010 has a gross take-off weight of 130,000 pounds and is powered by four Pratt and Whitney R-4360 engines of 3500 hp each. Dimensions include 160' span, 126' length, 38' height and a 74' passenger compartment with a maximum width of 14'. In normal service the aircraft is expected to seat 100 passengers or provide berths for 60 while a coach service version would handle 160 seats or 88 berths.

End for Many Non-Skeds Seen as CAB Tightens Rules

By DANIEL S. WENTZ II

The heyday of the irregular carrier operating with little or no regard for CAB rules will come to an end May 20, if CAB has the final say about it.

On that day new Economic Regulation 292.1 just issued by CAB to replace the present (and by comparison, liberal) 292.1 will take effect. From then on, the blanket exemption under which irregulars could fly without getting a CAB route certificate will be wiped out.

In its place, CAB will force each large irregular operator to ask for and justify an individual exemption. While he is waiting for a trial on his application, he may continue to operate under a temporary blanket exemption. But if he does not pass what will probably be a very rigid examination, he must go out of business. That is the gist of CAB's new rules.

Since last December when CAB told the irregular industry of the new rules it was planning to adopt, the irregulars have known something was coming. And they protested vigorously, claiming that the Board's proposals, if strictly enforced, would put them out of business. CAB heard their arguments. It has now issued a set of rules which are more strict, if anything, than its December proposals.

Tough Time Ahead. Although it is too early to be certain, there is a strong likelihood that irregulars whose past record has been on the thin edge or outside the law will have a very tough time getting one of the individual exemptions without which no irregular can fly. This will be the case because the Board has specifically said it will consider past violations in passing on the applications for individual exemptions.

The industry has had its well-behaved members as well as its lawbreakers, but from the number of enforcement cases already underway, there are many who have openly flaunted the Board's rules. CAB will try to weed this type of carrier out when it gets around to issuing the new exemptions.

Big airplanes and their use in irregular operations were thoroughly discussed by CAB. A big plane makes money only when it is in the air, and the Board feels that owners of several DC-3 or DC-4 types are strongly tempted to fly them more regularly than the law allows because of this basic economic fact of life.

CAB believes that there is some need for the use of such large aircraft under the proper circumstances. But permission to use them in irregular service will be granted only in cases in which "(a) it is demonstrated that a need for irregular service exists and will be met by the use of such aircraft, and (b) the Board can define the scope of the carrier's authority with more particularity than is possible under a blanket exemption authority."

This high-sounding legal language seems to mean that the Board will take plenty of convincing that a large plane should be used in irregular service. It also will write a very restricted ticket for the irregular who earns a Letter of Registration. In this way it hopes to prevent the heavy concentration of irregulars on long haul trunkline routes which has marked the history of the non-certificated carrier thus far.

Control Over Agencies. By shifting certain legal requirements, CAB has decreed that after May 20 the irregulars will have to live up to several sections of the Civil Aeronautics Act from which they used to be exempt. These sections deal with consolidations, mergers, acquisitions of control, interlocking relationships, filing of agreements, and a requirement that each must establish and observe just and reasonable individual rates, fares, charges, classifications, rules, regulations and practices.

This means a great deal more than might appear on the surface. It gives the Board full control over ticket and travel agency relations among the irregulars by requiring CAB approval of any agreements. In this way the Board can keep track of who is doing business with whom. Through control of mergers and interlocking relationships it will be able to prevent the constant shifting of coporate identities and personalities which has occurred.

Just to make sure, CAB announced that it plans to adopt several new rules covering carrier-agency relations. If these go into effect, every irregular will be specifically prohibited from entering any arrangement which has the effect of holding out to the public that regular or reasonably regular service is available between any two points.

This should spike the ticket agency device by which several carriers combined to fly a regular service as a group but whose individual flight records might appear clean. CAB has been particularly annoyed with this device for evading its regularity rules.

More Records. Another part of the Board's proposed new regulations would require large irregulars to file a great deal of information relating to their dealings with ticket agencies or other sources of traffic. They would also have to keep various types of records for at least a year, and send to CAB copies of all their advertising material as well as ads issued by their agents or brokers.

These rules—both the ones now in effect and those proposed—add up to a very tough brand of regulation. A great deal of CAB's success depends on enforcement, and there is not much chance that this branch of its activities will be much better than it has been.

Board officials say their budget just doesn't give them enough agents to police the industry, and many of the abuses which have been common must be attributed in part to lack of enforcement. The workability of the plan also depends on the machinery of the Board.

Apparently a series of individual cases will be held on the applications for new individual exemptions. Here the notorious CAB red-tape will come into play, and all types of delays may result. But the irregulars will be getting the hearings for which they have been clamoring.

Although it is certainly too early to foresee just what the results of the new rules may be, it is a pretty safe bet that a number of irregulars will be forced to quit flying. There are, however, a number of possibilities which may prevent CAB from enforcing its ideas, because there is already some talk of seeking a court review of the new 292.1.

(See Page 47 for details on how Revised 292.1 affects small irregular carriers.)

Behind Safety Record—Back in the thirties, Sigmund Janas, president of Colonial Airlines, coined the slogan, "Safety Is No Accident." On April 19, the company claimed an airline safety record in concluding its 19th consecutive year of scheduled operation without a fatality or serious injury to passenger or crew. A total of 250,545,622 passenger miles was compiled from April, 1930 through April 18, 1949.

Take-Off Weight Boosted:

Higher Payload & Revenue Potential for Constellation

A sharp increase in payload and potential revenue will accrue from a new CAA-approved upward adjustment boosting the gross takeoff weight of the L-749 Constellations from 102,000 lbs. to 107,000 lbs.

This 5,000 lbs. increase in takeoff gross, together with an increase in the maximum landing weight from 84,500 lbs. to 89,500 lbs., is achieved through minor structural modifications, the use of Curtiss 830 high activity ratio propellers and the installation of increased capacity brakes made by Bendix. Hamilton Standard 2F17-24 propellers are optional.

Increase in operating weight empty is approximately 1,000 lbs., leaving the additional weight available for either payload or added range. For ranges up to 2,200 miles, the L-749A will be able to carry almost 4,000 lbs. more payload and for ranges above this distance approximately 2,500 lbs. more payload. Required runway length for the full gross of 107,000 lbs. with the 830 propellers at sea level is 4,520 ft.

Payload Gains. An analysis of payload in long range operation over certain specific routes shows the following results on the "critical legs," which determine through payload, (based on flight at 20,000 ft., 110% speed for maximum range at 10,000 ft. for given landing weight).

A payload increase of 2400 pounds on the Shannon-Gander 1,975-mile flight against 60 mph headwinds; 2,400 pounds on the Santa Maria-New York 2,610-mile segment against 60 mph winds; 2,900 pounds on the Recife-Dakar 1,910-mile segment against 20 mph headwinds; 2,500 pounds on the Rio de Janiero-Dakar 3,125-mile route against 20 mph winds; 2,400 pounds on the Bombay-Cairo route of 2,750 miles against 30 mph winds, and 2,400 pounds on the Saigon-Karachi flight of 3,150 miles against 30 mph winds.

The L-749 Constellation at the increased takeoff and landing weights can carry the same payload approximately 350 miles further. This will permit on some routes the elimination of a refueling stop or make possible the dispatch of a trip against greater headwinds over a given distance.

As an example, flight distance between London and Cairo is 2,430 miles. In order to ensure schedule regularity, a 30 mph headwind must be considered. At the present takeoff weight of 102,000 lbs. an intermediate gas stop would have to be scheduled at Rome or Athens to book a full payload of 13,462 lbs. In the case of the Constellation at a takeoff weight of 107,000 lbs., a non-stop flight with 13,462 lbs. of payload is possible.

Another illustration is the 3,025 miles from Shannon to New York. For a 60 mph headwind and cruising at 20,000 ft. the Connie's non-stop payload at present weights is 4,000 lbs. But at the increased weights, it is 6,400 lbs. The 2,400-lb. difference is the equivalent of 11 passengers.

At the one-way fare of $348 between London and New York, the additional possible one-way revenue per trip is $3,828. A schedule of one flight per day in each direction would have an additional potential revenue of $53,592 per week or $2,786,784 per year.

Potential Revenue Increase. If only 50% of the additional payload is utilized to carry more passengers, the potential revenue on the North Atlantic is increased by almost $1,500,000.

Figures prepared by Lockheed show that with one round trip per day the potential annual earning power of the L-749 at its increased takeoff weight is improved by:

- $2,150,000 between London and Cairo
- $5,120,000 between London and Bangkok
- $8,350,000 between London and Sydney.

The use of the new Curtiss 830 propellers will bring about a marked improvement in operations out of high altitude airports and in fulfilling the requirements of temperature accountability. The L-749 equipped with the 830 propellers requires approximately 12% less runway length to carry approximately 17% more payload than the Constellation equipped with the Curtiss 850 propellers now in use.

At high altitude airports, and taking temperature into account, the 830 equipped Connie can carry approximately 12% more payload or for the same payload use approximately 22% less runway. At 107,000 lbs. from sea level airports the 830 propellers will permit takeoff at temperatures 20 degrees above standard as compared to 102,000 lbs. at standard temperatures. Only 5,345 ft. would be required for takeoff at full gross of 107,000 lbs. from sea level airports at temperatures up to 150 degrees F.

Effect on Performance. The increased weights will have only a slight effect on the performance of the L-749. The following are the performance figures on the newly CAA certificated L-749A equipped either with the Curtiss 830 or Hamilton Standard 2F17-24 propellers, both of which have the same activity factor of 75.

Typical examples of this change in airspeed at various altitudes and power settings are: 11 miles per hour less at the 107,000 weight and 19,200 feet altitude with 1800 hp per engine, 23 mph less at the critical altitude of 23,000 feet drawing maximum cruising bhp of 1400 hp; 9 mph less at 10,000 feet drawing 1400 hp; 21 mph less at 1100 hp and 12 less mph at 1300 hp. At 20,000 feet with maximum cruising bhp there is a 17 mph loss, at 1260 bhp, 25 mph loss and at 1100 bhp, 48 mph loss.

Minimum takeoff and climb distance to 50 feet is 3680 feet, while CAA takeoff airport length is 4520 feet at the new weight. Minimum distance to stop from 50 feet altitude is 2880 feet, with CAA landing airport length 4810 feet. Stalling speed with flaps is 91 mph, while four engine rate of climb, SL, normal rated power 1234 fpm compared to 1637 for the present day weights. Three engine rate of climb is 637 fpm compared with 961 and two engine rate 22 compared to 331.

Douglas Optimistic Over Super DC-3, DC-4

At least one manufacturer of commercial transport planes—Douglas Aircraft Co.—is encouraged regarding the sales outlook.

Donald W. Douglas, president, told stockholders at the annual meeting April 20 that prospects are good for the sale of numbers of Super DC-3's, "modernized" DC-4's and a convertible version of the DC-6A Liftmaster cargo transport.

Speaking of the latter type, he said the backhaul problem in air cargo operations and the new developments in coach-type passenger service were prompting the airlines to take an interest in a plane that could be converted to carry mostly cargo in one direction and mainly passengers at the reduced coach fares in the other.

As to the Super DC-3, Douglas said the company was about to close orders for this plane with an undisclosed number of airlines. He also said the company was likely to sell the Super C-47 cargo versions to the Air Force and Super R4D's to the Navy.

Pointing out that the DC-4 still has quite a market, especially in dollar-short foreign countries, the manufacturer predicted that this transport's scarcity value would increase over the next several years.

He said the company is making alternate proposals to airlines either to sell their DC-4's and replace them with a lesser number of DC-6's to attain the same schedule pattern or to buy "modernized" DC-4's with cabin pressurization and other special features. He said the financial situation of the individual airline probably would govern its choice.

Jurisdictional Dispute:

Flight Engineer Issue Flares Anew

Flight engineers have been much in the news on three fronts during the past two weeks. The Flight Safety Foundation completed its $5,000 study for the CAA and CAB in which an outline was formed as to how crew manning requirements might best be determined. The report has been turned over to the CAB where it is being studied. The FSF suggests that they be assigned the task of conducting the crew manning study, however at this time CAA does not have adequate funds available to meet the quoted price of such a study.

In Chicago, during the annual ATA operations conference, the operations directors and pilots considered the possibility of standardizing on the flight engineer's duties among the airlines. Although it was generally conceded that such standardization was desirable the final decision was against it. The reason: CAB and CAA might take this as an indication that the airlines were resigned to flight engineers.

It is true that the airlines, after limited experience with engineers, have gained some useful knowledge about what they want (if anything) in an engineer. There is some indication that career flight engineers will eventually be used instead of using the flight engineer's seat as a stepping stone to the pilot's position. The rate of turnover is too high under the latter system. Although engineers have been in use a very short time, one airline has already "advanced" 10 flight engineers into positions as co-pilots.

Airline Opposition. But the airlines, as expressed at the ATA conference, are still opposed to the use of flight engineers as stipulated by Civil Air Regulations and will continue to seek a new ruling. In this light, the recent court decision which over-ruled the need for a third engineer on railroad trains was noted with much interest by the airlines. It is likely that this ruling will be used in reopening the crew manning case.

Finally, while the airlines and the government attempt to provide factual data on the crew manning requirements, a jurisdictional fight over collective bargaining representation of flight engineers has arisen. A sizeable number of present day flight engineers, including those flying American Overseas, Pan American, Eastern, and TWA, belong to the Flight Engineers International Association which claims a membership of over 600.

However, the Air Carrier Flight Engineers Association, an affiliate of ALPA, has filed a request with the National Mediation Board for a class and craft representation election among flight engineers of American Airlines.

This is directly contrary to the wishes of AFL's president William Green who has notified David L. Behncke, president of ALPA, as follows, ". . . I am calling upon you and through you the representatives of ALPA to respect jurisdiction of FEIA and to cooperate with said organization in the efforts it puts forth to organize flight engineers that come under its jurisdiction . . . I hope and trust you may find it possible to respond to this request, and by doing so help this new international union of flight engineers to organize those who come under its jurisdiction as granted by the Executive Council of the American Federation of Labor."

Regardless of the inter-organization dispute, the NMB has docketed the case and is now setting up election procedures.

Welsbach Acquires Rights To Bartow Lighting System

The Welsbach Corp., an important organization in commercial lighting systems, has acquired patent rights to the J. B. Bartow system of high intensity airport lighting. This system, in combination with lights made by the Line Material Co. and other lighting manufacturers, has been used at many of the world's leading airports.

In a statement relating to the newly acquired patent rights, Morse Dellplain, president of Welsbach, proposed that "the royalties for the use of the coveted Bartow patents be paid by the airport itself, or by the contractor who shall install the equipment."

The royalty referred to is a flat price of 80c per lighted runway foot for airports using the Bartow system. The Bartow patents have been in operation for 10 years, leaving seven years before expiration of the rights.

Welsbach Corp. also "proposes that all manufacturers of airport lighting equipment be encouraged to promote and sell their own design of runway lighting fixtures to become component parts of the Bartow system."

Welsbach maintains gas and electric street lighting systems in such cities as New York, Chicago, Philadelphia, Baltimore and Cincinnati. Its home office is at 1500 Walnut St., Philadelphia 2, Pa.

Beech Suit Dropped

Trial of the $843,000 breach of contract suit brought against Beech Aircraft Corp. by Empire Air Lines, Inc., New York State intrastate non-certificated carrier which suspended operations December, 1946, ended in U. S. District Court in Wichita when plaintiff asked that the case be dismissed without prejudice. Beech attorneys agreed to this, providing plaintiff would pay the costs of the action, which Empire agreed to do.

The lawsuit arose from an Empire claim that the engines in five D-18C Beechcraft it had purchased had failed in some respects so that the planes allegedly could not be used.

Time-Saver— Northwest Airlines reports saving from 10 to 15 minutes per plane in handling an average size cargo load with this new conveyor-belt loading and unloading device. Powered by a mobile power unit, the machine is especially useful in handling large boxes and other bulky shipments. This unit is in use at Wold-Chamberlain Field, but the airline is planning to employ an improved model at all of its stations. The conveyor belt may be raised or lowered by a mechanical crank to adjust to cargo doors of various heights.

DC-3 Rated Tops for Quick Stops at Small Stations

By WAYNE W. PARRISH

The chap who wrote the copy for the American Airlines advertisement "retiring" the DC-3 should have been with me a few weeks ago. Having been invited to talk to the annual traffic and sales meeting of Braniff Airways in Dallas, I decided to do some roaming on the way down and back.

My roaming took me over Capital, American, Trans-Texas, and Delta and the only time out of 5,727 miles and 59 landings and take-offs that I was on anything except a DC-3 were two relatively small hops on an American Convair from Memphis to Dallas and Cincinnati to Washington. Not only is the DC-3 very much alive and kicking, but a sizeable portion of the U. S. is quite dependent upon it for its air transportation.

No one in his right mind would fly by choice from Washington to Memphis via Norfolk, Elizabeth City, Rocky Mount and eight other points including Huntsville, Ala., for the Capital Airlines "Tobacco Road" route is not only far out of the way but up and down for nine or so hours. But it was a good experience to see Capital's converted DC-3 with door-step and other innovations in operation over a route which was once decried as being worse than useless.

Quick Stop Service. Capital can take a bow. Not only was the flight from Norfolk to Memphis the fastest local-stop service I've ever experienced on a trunk line, but the loads were excellent. Only between Norfolk and Raleigh was the plane almost empty. From Raleigh to Memphis the average must have been 18.

The way the boys got the airplane in and out of airports, and with plenty of offloading and onloading of passengers and mail and baggage, was an encouraging sight. The door-step was down and up rapidly, there was no lost motion of paper work, and the passengers liked it. More than one commented that it was the fastest operation they had ever seen.

Capital uses flight attendants, and mine was Henry A. Peckham, of Arlington, Va., a business-like lad who not only performed all the duties of a stewardess but handled the paper work, mail, etc., in good fashion. Capt. J. G. Carmichael (no relation to Slim Carmichael, Capital's president), wasted no time getting on and off the fields and his landings were AA-1.

It was a rough day and headwinds all the way, but the people of North Carolina and Tennessee were getting good air service. Only one engine was cut at the stops except for the refuelling stop at Knoxville. I was well impressed by both efficiency and traffic.

Change to Convair. Transferring to American's Convair at Memphis was quite a transition. The Convair made complete stops at Little Rock and Texarkana (8 minutes at the latter stop) and it seemed like I'd never get to Dallas. We were two hours late in the bargain. Probably it's because the Convair is new, but there was a terrific amount of waste motion, lost time and confusion at both local stops en route to Dallas.

The Braniff sales meeting under the direction of Rex Brack, general traffic and sales manager, was a lively affair. Lots of rivalry between Bob Burck's southern division and Bob Phinney's northern division, and Bill Beattie threw in plenty of challenges from his new Latin American division. Braniff is concentrating on South American sales, has a new credit plan, considerable new sales literature, and a good healthy sales spirit. One thing I liked about the Braniff program—all station managers are counted as salesmen and attend the annual meeting. A good idea.

Braniff has reduced its sales personnel from 500 to 348, but sales are up 70% per person in the past three years. It has some old-timers who have a reunion every year with Claude Adams, secretary-treasurer of the company. These include Jack Daugherty, d.t.m. at Brownsville, Texas; Gordon Shook, d.t.m. at San Antonio; Bob Phinney, northern region traffic manager, Oklahoma City; Bob Burck, southern region traffic manager; Al Aldridge, interline and agency director; Don Schomberg, d.t.m. at Amarillo; Lloyd Eden, treasury department; and Earl Sealey, d.t.m. at Houston.

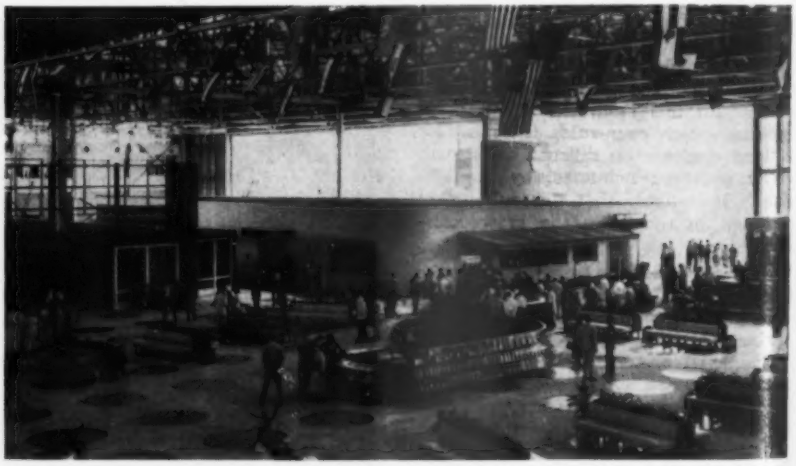
Trans-Texas Tour. After the Braniff meeting I made a complete tour of Trans-Texas Airways with Stan Danilow, assistant to the president. This was just prior to the show-cause order issued by the CAB in which the CAB (or someone in the CAB) decided, for reasons suspected but not publishable, to close up TTA peremptorily at the end of its three-year certificate because it wasn't doing any business. But the CAB order was based on very early statistics and it was obvious that whoever wrote the opinion and jammed it through the Board didn't know what he was talking about and had reasons other than merit for reaching the conclusion.

Danilow

TTA believes it has the lowest DC-3 operating cost in the industry—78c a mile.

It is true that traffic on some segments of TTA is light, but there are a lot of isolated towns in the big state of Texas needing and wanting air service. Mail is of great importance to ranchers and farmers and mines, and surface transport is abominably slow. The week before I made the trip three Dallas-Houston flights had been oversold, so everything isn't too bad on TTA when you have over-sales.

Capt. G. W. Spencer and First Officer



San Juan's New Terminal—By converting a U. S. Navy hangar, Puerto Rico's Air Transportation Authority has created "a terminal within a terminal" with air conditioned restaurants, a nursery, gift shop, drug store, tourist information office, and deluxe observation deck. A new preflight examination of airline baggage and cargo leaving P. R. for the United States mainland simplifies travel, since no further examination is required for entry into the U. S. The terminal is used by Pan American, Eastern Air Lines, Caribbean-Atlantic, and Air France.

Q. N. Sowell flew me to Houston via Palestine, Lufkin, Beaumont and Galveston. The stewardess was Jerry Powers of Kansas City. What she's doing down in Texas, I wouldn't know, but she could get along very well anywhere anytime.

4th Among Feeders. TTA has not installed a step-door in its 10 DC-3's because its stops are longer than those of most feeders. It serves 21 points on a 2,048-mile system and one of its routes, from Houston to El Paso, is 842 miles, which gives an idea of how wide Texas can be. Twenty-eight per cent of TTA's traffic is interline. In January TTA ranked fourth among 12 feederlines in revenue passenger miles.

Since only 67 miles of TTA's routes were on Federal airways, the airline had to build and install its own homing beacons. These are now being used by Navy, Air Force and other itinerant pilots as well as by TTA. H-markers are located at Lufkin, Palestine, Brownwood, Fort Stockton, Marfa, Victoria, Del Rio, Eagle Pass, Uvalde, and Mission.

TTA is approved for 500 feet and two miles at night, and 500 and one for daylight, and 600 and one in the mountainous areas. Minimum altitude on one route is 11,000 feet at one point. The Marfa airport is 4885 feet altitude, highest on the system.

Few airlines operate through such a diversified climate, at least within a single area of the country. Brownsville near the mouth of the Rio Grande is tropical and humid. West Texas is arid. The sea level coastal area of Galveston has heavy rainfall. A TTA plane can leave El Paso at 5 degrees below zero and reach Brownsville a few hours later in 65 degree sunshine. Many trunk lines experience similar climatic changes but never in a single state.

The flight from Houston to Brownsville via Eagle Pass was quite interesting, especially the Rio Grande Valley segment with its many small communities and citrus and truck farms. It is a highly productive area with a considerable use of air service.

Crew on this flight was Capt. J. A. Hodge, First Officer W. R. Felker, and Stewardess Peskuski. From Brownsville to Eagle Pass was Capt. R. T. Barrett, First Officer R. W. Gilbert, and Miss Helen Murry, a vivacious and efficient little gal. From Eagle Pass to El Paso the crew was Capt. J. C. Gibson, First Officer F. L. Lueke, and Miss Lorraine Sherwood. Eagle Pass is a junction point with three planes converging there twice a day.

Strong for Service. Overnighting in El Paso, we left early in the morning for a luncheon at Fort Stockton, picking up the afternoon plane for the remainder of the trip to Dallas. At Fort Stockton I met and listened to a group of businessmen who are strong for the TTA service. Almost every one out of the 50 present had flown on the line and everyone had used either air mail or express or both. There is no avoiding the benefit of scheduled air service to small but important and wealthy trading centers such as Fort Stockton.

The crew from El Paso to Fort Stockton was Capt. W. W. Puliam, First Officer J. D. Leslie Jr., and Miss McFarland. From Fort Stockton to Dallas it was Capt. D. N. Richards, who is TTA chief pilot; First Officer R. M. Boyd, and Miss Jerry Powers.

TTA just got its sales and traffic department organized in March. Paul Welch, who was with Mid-Continent, became general traffic manager. Mel Anderson, who was Slick Airways regional sales manager in Chicago, is cargo, agency and interline manager. William Keefer, formerly with Braniff, is assistant to Welch, and Warren Singer is reservations manager. Fifteen traffic men have been appointed in the field. Until March, Danilow, now assistant to the president, was the sole traffic and sales force.

Minimum of Expense. TTA has followed a policy of getting its organization in full shape before concentrating on sales. It wasn't until March 6 of this year that it had two round-trips per day over the entire system. Now it is out to sell the service despite the handicap placed on it by the CAB show cause order. TTA's president, R. Earl McKaughan, and Henry Erdman v.p.-operations, have done a good job of putting a large airline in operation with a minimum of expense. TTA planes are good and the operation has a snap to it. There is no delay at local stops, no time wasted anywhere.

Mc Kaughan

Returning to Washington would have been easy by a direct route but I roamed some more. A local Delta service to New Orleans and Atlanta, Delta local to Cincinnati, and an American Convair to Washington. The Delta service has a national reputation for being tops and my flights were no exception. Stewardess Josephine Sylla on the Dallas-Atlanta flight was one of the best I've seen in handling passengers. The local stops were full stops, however, quite a change from Trans-Texas and from Capital.

Delta could well quicken its service, it seems to me, shutting off only one engine, getting in and out of the local stations within seconds or a minute or two, instead of five to ten minute stops. On the Atlanta-Cincinnati route this practice was followed with impressive results—the service had a snap to it.

American's Convair on the last leg of a long trip made long stops at Charleston, Parkersburg, and Elkins, at least they seemed long. The smaller the airline, the more advanced it is in serving local stops. The bigger the airline, the slower the procedures. The trunk lines have a lot to learn from the feeders, and Southwest Airways is probably the origin of most of the good practices used today. There isn't any real need for long stops at small stations and, if I recall correctly, those long stops cost money.

Mid-Continent Proposes To Operate Parks Feeder

The Civil Aeronautics Board put six certificated but non-operating feederlines on notice several weeks ago that they would have to get going by July 1 or face possible loss of their certificates. One of the six—Parks Air Lines, Inc., of East St. Louis—came up last month with a proposal that it hoped would take it off the hook.

The deal, which could not be consummated except with CAB approval, was that Parks' feeder route structure would be handed over to Mid-Continent Airlines, with the feeder becoming a wholly-owned subsidiary of MCA and retaining its own name. Oliver L. Parks, president, would retain his interest in the company and serve on the board of directors of both corporate carriers.

The Parks certificate, issued March 31, 1948, covers some 2,785 route miles in 11 midwestern states. When added to MCA's present 3,500 route miles, and with duplications eliminated, the Parks acquisition would make Mid-Continent one of the largest of the domestic airlines.

The one thing the proposal would do, if approved by CAB, would be to solve for Parks the many problems, financial and otherwise, of implementing its feeder certificate by the end of June.

Insurance Firms Involved In Suit Over Martin 2-0-2's

Suit for $725,000 alleging delivery of five defective Martin 2-0-2 transports was brought against the Glenn L. Martin Co. in U. S. District Court in Cleveland on April 14. The suit was filed in the name of Northwest Airlines, but actually was action in behalf of NWA's insurance underwriter and against the Martin company's insurance firm.

One of the allegedly defective planes mentioned in the suit was the 2-0-2 which crashed last Aug. 29 near Winona, Minn., killing 33 passengers and three crew members. The petition said the left wing "tore off in flight." Official findings of the CAB investigators have not been divulged.

The suit seeks to recover $450,000 for the lost plane and its equipment, $250,000 for the loss of services of the four other "defective" planes during modification, and $25,000 in workmen's compensation for which the airline became liable as a result of the accident.

Flexible & Fluid:

Transocean Air Lines—World's Biggest Contract Air Service

By FRED HUNTER

Whenever one of Transocean Air Lines' major stockholders drops into the office of the president, Orvis M. Nelson, it calls for reminiscences.

The office, atop Hangar 5 at the Oakland Municipal Airport, used to be the pilots' "dog-house" for United Air Lines flight crews.

The transformation of the old United pilots' "dog-house" into Nelson's modernly furnished, neatly decorated office, where the traffic, when Nelson is in town, is as brisk as at the loan desk of a bank, symbolizes perhaps as well as anything else the character of Transocean Air Lines, the personality of its president, and the astonishing progress it has made since it began operations in March of 1946.

Its start was in the cockpit. A group of pilots dreamed it up and put it into execution. They made it work. So far in the current fiscal year (June-to June) Transocean's profit is around half a million dollars. That would seem to be achievement enough. But it is less than half the story.

All Purpose. In three short years it has become the world's largest contract carrier. It has approximately 2,300 employes and annual payroll of $8,000,000. It operates 16 maintenance bases around the globe. Its planes are familiar at airports in all the continents.

It has branched out into contract maintenance, both of aircraft and engines. It engages in research, operating the Landing Aids Experiment Station at Arcata, Calif. It operates a school.

Most recently it has organized an airport construction company. Name it, and if it is connected with aviation, Transocean is ready to tackle it.

All of this has been attained on a capital investment that would make a banker throw up his hands in horror—a capital investment of less than $200,000.

An envious competitor, whose company hasn't done as well, explains Transocean this way: "Every time that Nelson threw the dice, they came up seven: never snake eyes."

But Bob Prescott, president of The Flying Tiger Line, looks at it differently. "Everytime I would hear of a piece of business and go after it," Prescott explains, there would be Nelson just departing, shaking hands in the doorway, the business in his pocket."

Transocean Air Lines was organized as a California corporation in May, 1946, as successor to the ONAT Co. (ONAT was name coined from initials of Orvis Nelson and Air Transport and applied to a group of former military pilots who operated after the war between San Francisco and Honolulu under subcontract to United Air Lines.)

The new company took over the ONAT assets, contracts, and personnel on June 1, and in so doing distributed 20,000 shares of capital stock to the original associates, including the key supervisors and officers instrumental in setting up operations.

Coincidental with a decision to enter the commercial contract field, Transocean issued an additional 20,000 shares of stock at $6.50 each to finance expansion and to permit its employes to participate in company ownership.

Aside from the original group of United pilots, plus a couple of more who were permitted to sneak in under the wire later, all of Transocean's stockholders are employes. Numbering 130, they range from Nelson, who has 27% of the company, down to mechanics who have 10 shares.

Transocean's first dip into its new capital was for the purchase of two surplus C-54's in the latter part of May, 1946. Its second was to acquire quarters in an Oakland Airport hangar vacated by the Naval Air Transport Service for the establishment of its own maintenance.

Transocean's first commercial contract flight was a charter to Manila for a group of Filipino natives who wanted to witness the Independence Day celebration in the Philippine capital. This served to call Transocean to the attention of Philippine Air Lines which was anxious to establish communications between the U. S. and Manila, but lacked both equipment and overseas operational know-how.

The dispatch with which Nelson acts was illustrated by the fact that by the end of July Transocean had entered into its initial agreement with PAL to fly charters to Manila through August and September.

Sets Up PAL. Subsequently for PAL, Transocean inaugurated flights to Shanghai, to Bangkok and to Hong Kong. Survey flights were made to Singapore, Batavia, and Australia. Eventually, Transocean assumed the responsibility of setting up the international division of Philippine Air Lines as an operating entity and to accomplish this Nelson was named v.p. in charge. Capt. Samuel L. Wilson, Transocean's director of operations, was loaned to PAL and sent to Manila to handle the operation of the division. Meanwhile, Transocean sold two C-54 aircraft to PAL for approximately $500,000 in PAL stock, making it one of the principal stockholders in the Philippine carrier.

Transocean lost its ace-in-the-hole, the ATC sub-contract, in January, 1947. Anxious to devote itself to its domestic commercial operations, United was not a bidder when the ATC put the contract up for competitive bids in December, 1946. Transocean made a bid, but lost out on price to the Flying Tigers.

This, at first, was a severe blow to the growing company, but events proved that probably it was a blessing in dis-

23,000-Mile View—Officers of Transocean Air Lines must have a 23,000-mile viewpoint to follow the progress of the company's contract planes. Here, left to right, are Sherwood A. Nichols, secretary; Orvis M. Nelson, president; Ray T. Elsmore, executive v.p.; E. H. Borgard, v.p. of engineering and maintenance, planning a round-the-worlder.

"X" IS THEIR WORK SHOP

Exploring the unknown . . . in rocketry, pilotless aircraft and guided missiles . . . is the important job of an able group of mathematicians, physicists, electronic, metallurgical and aeronautical engineers at The Glenn L. Martin Company. Revolutionary concepts of electronic guidance, instrumentation and navigation . . . delicate servo-mechanisms . . . spectacular power plants and powerful new fuels . . . are their breath-taking tools.

In an age when control of the air is vital to national security, Martin research once again leads the way . . . with the greatest advances on the most varied combination of top-level projects yet undertaken . . . in this dramatic new phase of flight. THE GLENN L. MARTIN COMPANY, BALTIMORE 3, MARYLAND.

RIGHT—*Propelled by an engine without moving parts, tracked by radar, piloted by remote control, Martin Gorgon IVs (built for Navy propulsion research) have made the longest flights ever achieved by pilotless aircraft powered with ram-jet engines.*

LEFT—*Viking rockets, another product of Navy-Martin teamwork, will soon go up in the vicinity of 200 miles into the ionosphere and telemeter invaluable information back to the ground for future research. These amazing rockets will go many miles beyond the V-2, reach a maximum speed of 8,000 ft. per second.*

Martin
AIRCRAFT

Builders of Dependable Aircraft Since 1909

guise. It served to emphasize to all within the company the need to buckle down to the problems of securing additional commercial business and reducing operating costs to the minimum.

It was this impetus, no doubt, that prompted one of Transocean's navigators to note a small item in a newspaper that the Province of Ontario was encountering difficulties in its program to bring British emigrants to Canada because of the shortage of ship space. Given the news, Orvis Nelson lit out for Toronto on the double. He got a contract for the mass movement of 7,000 emigrants from London to Toronto, a nice piece of business for anybody's airline.

Similarly, Transocean had started in 1946 to try to convince the Army engineers it would be cheaper to fly construction workers from California to Guam and Okinawa and return than to pay out portal-to-portal pay during the slow trip by boat. Transocean now prosecuted this premise vigorously. The Army Engineers were won over and they put a contract up for bid. Transocean was the successful bidder, starting operations in Sept., 1947. The airline is still engaged in this movement.

Fleet of 12 C-54's. Today, Transocean's 12 C-54 aircraft, six company owned and six leased, roam both the Pacific and the Atlantic. In addition, there are half a dozen leased Curtiss C-46's in Europe. It has one of the largest single air transport contracts ever negotiated, calling for the movement of 25,000 displaced persons from Munich, Germany, to Caracas, Venezuela, for the International Refugee Organization of the United Nations. And its latest contract has it back flying for the Air Force in the Pacific, a weekly schedule between Fairfield, Calif. and Tokyo.

In flying nearly 15,000,000 miles of contract long-distance flying since V-J Day, Transocean's record includes more than 50 round-the-world flights.

In the Atlantic it has flown under contract to Trans-Canada Airlines, TWA, KLM and SAS. In the Pacific it has flown under contract to United Air Lines, Philippine Air Lines and Pan American Airways. It has supported the Berlin air lift flying engines, spare parts, mail and personnel to Frankfort and Berlin.

Its wholly owned subsidiary, the Aircraft Engineering and Maintenance Co. at Oakland, is one of the three maintenance concerns overhauling Berlin air lift planes.

Flexibility Essential. Transocean has a letter of registration as an irregular carrier and it has a few tariffs on file with the CAB. But more than 95% of Transocean's flying is contract, less than 5% common carriage, and it seldom sells an individual ticket. This is in keeping with the philosophy of Orvis Nelson and his directors, who feel that Transocean's place in the air transportation picture is to supplement, not compete, with the scheduled services.

"An airline flying schedules can't be expected to have the aircraft and personnel to shift about the world to take care of mass movements of people and cargo that could not be handled on regular flights," said Nelson. "Operation of a contract airline requires an entirely different style of thinking in the management and a different set of techniques and practices in the operations and maintenance ends. Extreme flexibility of thinking and fluidity of action are required."

Long on Experience. There's a lot of flight time represented on Transocean's board of directors. Orvis M. Nelson, who is chairman, has logged more than 13,000 hours. Four directors, John Mac. Hodgson, Sidney J. Nelson, Warren D. Williams and W. E. "Dusty" Rhoades, are presently United Air Lines pilots, all with 12,000 hours or more of flying time. The remaining director is Ray T. Elsmore, the company's executive v.p., who also has had airline experience with the old National Park Airways and Western Air Express.

Transocean's ground executives are long on experience, too. E. H. Borgard, v.p. of engineering and maintenance, has been in aviation 30 years and formerly was general superintendent of Boeing's pre-flight section.

R. E. Frey, Sr., his assistant, has had 12 years of military and commercial experience.

G. Anderson, special assistant to the v.p. of engineering and maintenance, has had 36 years and formerly was chief of maintenance and supply for the ATC at Fairfield, Calif. W. D. Knowles, superintendent of overhaul, has 25 years and formerly was assistant manager of overhaul of a scheduled airline.

R. Lang, chief engineer, has had 10 years and formerly was chief engineer of Matson's air transport division. W. D. Nye, chief of production control, has had eight years; A. Morjig, supervisor of line maintenance, 10 years, and P. Pystor, chief inspector, 19 years.

Douglas F. Johnson, v.p.-sales, heads up a good, solid sales organization.

Transocean is big business at the Oakland Airport, where it has spread out over most of the airport. Its maintenance shops, in a hangar big enough to house nine four-engined ships, hum with activity on two shifts overhauling Berlin airlift C-54's and keeping its own planes in shape. The engine overhaul shop, in which Transocean recently acquired a 76% interest, is busy both with Transocean engines and engines of other carriers. Its general offices are growing so fast desks are piling almost on top of each other as new personnel are added to take care of the administration of the $1,000,000-a-month business.

So far Transocean has plowed back all of its earnings into expansion to keep its capitalization low. The 130 stockholders have a substantial paper profit now, current book value being about $25 per share. It shouldn't be too long now before Transocean's directors can declare a dividend.

CAB CALENDAR

May 2—Hearing on Southern Transcontinental Route Case. (Docket 1102 et al.) 10 a. m., e.d.s.t., Conference Room "A," Departmental Auditorium. Examiner J. Earl Cox.

May 2—Hearing in Reopened Hawaiian Case. (Docket 851 et al.) 10 a. m., e.d.s.t., Room 1011, Temporary Building No. 5. Examiner Ralph L. Wiser.

May 3—Hearing in Delta Air Lines-Chattanooga Case. (Docket 3297). Tentative. Place and hour to be announced. Examiner Walter W. Bryan.

May 9—Hearing in Empire Air Lines Extension of Term of Certificate Case. (Docket 3649). Tentative. Place and hour to be announced. Examiner Curtis C. Henderson.

May 16—Hearing in North Atlantic Route Transfer Case. (Docket 3589 et al). To begin May 9 if possible. Tentative. Place and hour to be announced. Assistant Chief Examiner Thomas L. Wrenn.

May 16—Hearing in Hughes Tool Co.-Transcontinental & Western Air Control Case. (Phase II) (Docket 2796). Tentative. Place and hour to be announced. Examiner Edward T. Stodola.

Aviation Calendar

May 2-4—Airport Operators Council annual meeting, Brown Palace Hotel, Denver.

May 3-20—Foreign Transportation Institute, American University, Washington, D. C.

May 5-6—Purdue University Air Transportation Education Conference.

May 8—Second annual Southern States Air Carnival, Montgomery, Ala.

May 9-11—Airline Finance and Accounting Conference, ATA, Edgewater Beach Hotel, Chicago.

May 10-12—Civil Air Patrol wing commanders meeting, Statler Hotel, Washington.

May 12-13—Instrument Society of America spring meeting, Royal York Hotel, Toronto.

May 12-13—American Helicopter Society annual forum, Hotel New Yorker, N. Y.

May 17—National Safety Council, Air Transport Section meeting, UAL offices, San Francisco.

May 23-21—AIA's 14th NASC National meeting, Washington, D. C.

May 24-26—AIA Board of Governors annual conference, Williamsburg, Va.

May 24-27—Joint I.A.S.-Royal Aeronautical Society Conference, New York City.

May 27-30—Women's National Aeronautical Association convention, Chase Hotel, St. Louis.

June 1-4—Aviation Writers Association convention, Statler Hotel, Washington.

June 3-12—Michigan Aviation Week. (Auspices Aero Club of Michigan, Book Bldg., Detroit).

June 4-5—Third annual All-Woman Air Show, Miami, Fla.

June 4-5—Fourth Annual Air Fair & Industrial Exposition, Shawnee, Oklahoma.

June 17-18—Fourth annual Ohio Aviation Clinic, Bowling Green State University.

International

May 2—IATA Executive Committee meeting, Montreal.

May 4—ICAO European-Mediterranean fixed communications meeting, Paris.

May 10—IATA Traffic Conference, Nice.

May 11-13—IATA Public Relations Conference, Oslo.

May 17-28—IATA Technical Conference, Burgenstock, Switzerland.

May 23-25—IATA Financial Committee, Nice.

NEW WORLD DISTANCE RECORD

FOR LIGHT PLANES
SET BY

CAPTAIN BILL ODOM

AND HIS

BEECHCRAFT BONANZA

MARCH 7-8, 1949

HONOLULU — *Non-Stop To* — TETERBORO

4957.24 **MILES**
OFFICIALLY ACCREDITED GREAT CIRCLE DISTANCE

DISTANCE ACTUALLY FLOWN (Over water, 2474 miles — Over land, 2799 miles.)	5273 Miles
TIME EN ROUTE	36 Hrs., 2 Min.
TAKE-OFF WEIGHT	3858 Lbs.
GAS: Carried	288 Gals.
Used	272.25 Gals.
Remaining	15.75 Gals.
OIL: Carried	7.5 Gals.
Used	1.5 Gals.
Remaining	6.0 Gals.
EXTRA DISTANCE POSSIBLE ON FUEL UNUSED	372 Miles
AVERAGE GROUND SPEED, distance flown	146.3 MPH
AVERAGE MILES PER GALLON, distance flown	19.37 MPG
AVERAGE GALLONS PER HOUR	7.56 GPH
TOTAL COST OF GAS AND OIL	$75.00

Apply Bonanza Transportation to <u>your</u> business
Company ownership of this fast, *quiet* plane turns travel days into travel *hours*—time saved you can put to *profitable* use. Investigate! A note on your company letterhead will bring an informative 60-page brochure on "The Air Fleet of American Business." Write today to Beech Aircraft Corporation, Wichita, Kansas, U.S.A.

Top speed, 184 mph
Cruising speed, 170 mph
Range, 750 miles

BEECHCRAFT
BONANZA
MODEL A35

BEECHCRAFTS ARE THE AIR FLEET OF AMERICAN BUSINESS

Better First Quarter Reported by Airlines

This year, as it had always been in the past, the scheduled domestic trunklines showed a net loss on the first quarter's operations, but there was good cause last fortnight to believe that the 1949 first-quarter deficit would be the lowest since the war.

American Airlines, for example, reported a net loss of $225,500 for the first three months of this year, compared to an adjusted net loss of $4,825,000 for the same period last year. Operating profit for the month of March was $458,000, this being the first profit in March since 1945.

Chicago and Southern Air Lines, which lost $334,795 (subsequently reduced by retroactive mail payments to about $20,000) in the first quarter of last year, had a net profit of $36,021 after taxes for the same period this year. Operating revenues were up 33%, from $2,027,000 last year to $2,703,000 this year. Operating expense was up 29%, but 35% more service was provided than in the same period last year.

Another carrier that showed a substantial net loss ($1,245,858) for the first quarter of 1948 was **Capital Airlines.** J. H. Carmichael, president, told the New York Security Analysts Society last month that Capital probably had a small net loss in the first quarter of this year and would hit the black ink column in April.

Western Air Lines, which lost $654,828 in last year's first quarter, was expected to show a "very sharp" improvement this year, according to Terrell C. Drinkwater, president, and **United Air Lines'** president, W. A. Patterson, told stockholders last month that UAL's loss for the first quarter would be below that for the corresponding period last year.

Also encouraging was the report from **Northwest Airlines,** which told its stockholders two weeks ago that the company's loss for the March quarter this year will be about $500,000 less than the $1,800,000 loss for the same period last year.

Continental's 1947 Profit

In comparing domestic airline financial results of 1948 with those of 1947, AMERICAN AVIATION for April 15 (page 11) presented a tabulation which erroneously showed Continental Air Lines with a $100,000 loss for 1947. Actually, Continental was one of the few airlines to finish that year in the black, netting a profit of $100,458. This profit figure should have been reflected in the article as well as in the tabulation.

$15 Million More Pay for AOA, PAA

Pan American Airways and American Overseas Airlines on April 20 were offered an additional $15,000,000 for carriage of mail over the North Atlantic during the past three years, but coupled with the offer was a warning from CAB that trans-Atlantic operations have become increasingly dependent upon government support.

"In the light of discouraging trends in the North Atlantic operations, it is incumbent upon the Board to take vigorous action to protect the public against continually mounting expenditures in support of uneconomic expansion," CAB said.

"We are of the opinion that the sound development of air transportation must essentially lead to decreasing government support with the expansion of the industry."

The Board said it hoped to announce within 60 days a program for carrying out its stated principles, with establishment of a permanent rate for the future period for the trans-Atlantic operations to be deferred for that period.

Strike Costs Disallowed. The new temporary mail rate proposed for AOA for the period from Jan. 1, 1946, through Dec. 31, 1948, consists of a lump sum payment of $10,146,000, equal to 53.5c per revenue plane mile flown. Only $2,346,000 of this represents additional compensation, the carrier having already received $7,800,000 under its old temporary rate during that period.

For Pan American, the Board proposed a lump sum payment of $24,635,000 for the three-year period, of which $12,783,000 represents additional compensation. PAA's proposed new rate would be 83.1c per revenue plane mile. Previous rate for both carriers was 60c per revenue plane mile, although the actual yield was 41.1c for AOA and 40c for PAA.

A significant statement of CAB policy on strike cost allowances appeared in the AOA order, in which the Board said:

"Aside from the fact that specific recognition of losses due to strike would result in duplicate payment for the same loss, once through the return element and again as a reimbursable cost, it is obvious that such a procedure would unfairly discriminate against a carrier who suffers a strike under a prospective rate as compared to a carrier whose strike occurred during a retroactive review period.

"Accordingly, we conclude that no specific reimbursement of strike losses should be provided."

12 Major Plane Firms Show Profits

Three of the top 15 companies engaged in aircraft manufacture lost money last year; the other 12 finished in the black. Aggregate net profit for the 15 firms was over $12,000,000, as contrasted to an aggregate net loss of more than $32 million in 1947, when all but a handful of companies were in the red.

Reports have been received from 13 of the companies, and the other two—Northrop Aircraft and McDonnell Aircraft—do not have comparable figures to report because their fiscal year ends June 30. Both are thought to have operated at a net profit in 1948, however.

Of the 13 reporting, one showed a 1948 net loss of $16,711,000, another had a net loss of $11,979,000, and a third lost $347,122. The remaining 10 had net profits ranging from $357,000 up to $9,424,000. Overall profit for the group of 13 was $11,886,000.

Glenn L. Martin Co.'s $16,711,000 loss and Consolidated Vultee's $11,979,000 deficit were largely attributable to a write-off of losses incurred in their commercial transport ventures. Bell Aircraft's loss of $347,122 was possibly due to the company's heavy volume of experimental work.

On sales of $1,124,399,000, highest of any peacetime year, the 13 companies earned a net of $11,886,000. The ratio of net profits to sales was only 1.1%, a much lower ratio than that of almost any other industry.

Comparison of Aircraft Manufacturers' Sales and Earnings For Years 1948 and 1947

(000 omitted)

Company	Total Sales 1948	Total Sales 1947	Net Profit or loss 1948	Net Profit or loss 1947
Bell Aircraft	$ 15,329	$ 14,131	$ –347	$–1,184
Boeing	127,305	21,708	1,716	–448
Convair*	112,351	47,442	–11,979	–16,721
Curtiss-Wright ...	111,747	83,162	5,313	–1,365
Douglas*	118,582	128,459	5,829	–2,141
Fairchild	30,474	38,304	1,552	1,642
Lockheed	125,621	134,361	6,239	–2,472
Martin	72,687	23,366	–16,711	–19,182
North American** ..	94,783	20,509	6,780	–28
Republic	49,817	32,281	2,196	–2,080
Ryan***	7,948	8,016	357	–128
United Aircraft ..	207,955	208,263	9,424	9,816
Wright Aero.	49,799	51,261	1,517	513
Totals	**$1,124,399**	**$811,266**	**$11,886**	**–$33,778**

* For fiscal year ended Nov. 30, 1948
** For fiscal year ended Sept. 30, 1948
*** For fiscal year ended Oct. 31, 1948

Bendix Products

FUEL METERING SYSTEMS and COMPLETE LANDING GEAR

Bendix® Direct Fuel Injection Pump.
Bendix Segmented Rotor Brakes.
Bendix Pneudraulic Shock Absorbing Struts.
Bendix® Speed-Density Fuel Metering Unit.
Bendix Landing Gear Wheels for all types of airplanes.
Stromberg® Injection Carburetors.
Bendix® Fuel Metering Unit for jet engines.

Creative Engineering that Helps American Aviation Lead the World

Building complete landing gear for the world's largest land plane, or developing fuel metering systems for the latest jets is all part of the job for Bendix Products Division of the great Bendix Aviation Corporation. For here under one roof are the men and machines that have over the years furnished the landing gear and fuel systems which help American aviation lead the world.

Engine builders and airframe manufacturers are urged to let this matchless combination of engineering experience and manufacturing facilities help solve

BENDIX PRODUCTS
DIVISION of
SOUTH BEND 20, INDIANA

Between the Lines

By James J. Haggerty, Jr.

A New Maginot Line?

We are building a new Maginot Line. It's not a steel and concrete fortress such as the one the French took such pride in before Hitler showed them how foolish it was to place such confidence in it. Ours is a mental Maginot, a supreme confidence in the ability of a new weapon to win a war single-handedly. The new weapon is the long-range bomber—the Convair B-36.

We discovered that this new Maginot line was under construction when we paid a visit to the House of Representatives last week and listened to debate on defense appropriations—debate which brought about a whopping six billion-plus appropriation for the Air Force, but which reduced naval aviation to a token force.

Foreman of the new Maginot construction is Rep. Clarence Cannon, a Missouri Democrat who happens to be chairman of the House Appropriations Committee. Cannon came out point blank and said there was no need for a strong naval air force. Cannon said that the next war could be determined decisively in three weeks by atomic warfare—and he added that the only way to end this war in three weeks is by B-36 warfare.

"Why should we waste vast sums of money on naval planes tied down to a radius of 500 or 700 miles?" asked the distinguished gentleman from Missouri, where they used to have to be shown, but are now apparently gullible in the extreme and highly susceptible to Air Force propaganda. (Navy planes have radii up to 2000-plus miles.) ". . . a smaller amount of money can supply land-based planes about the effectiveness of which there can be no question," he continues. (He should check his price lists again.)

Dangerous Belief. If some other armchair general had uttered these sentiments, we would have dismissed them with a gentle curl of the lip. But Cannon's position makes them extremely dangerous remarks, for he is the chief of the group which decides how much money will be spent on defense and how it will be spent. And this business of concentrating our entire defense on one weapon, to the detriment of all others, can be serious.

In his speech on the House floor, Cannon also said that the Navy cannot reach Moscow with an atomic bomb. He stated further that the launching of atomic bombs is not a Navy function. With that we are in full accord, as we have stated before. We don't think the Navy has any business in long-range atomic bombing and we think it made a serious error in tactics when it tries to muscle into that territory, for such tactics cost the Navy a lot of friends.

But Cannon seems to have missed the basic point—that the Navy's aviation is not intended, as it is constituted today, to deliver atom bombs to Moscow. It is intended to protect the surface fleet from air or sea attack, so that the fleet can perform its assigned function of mastery of the seas. And, therefore, the question of whether Navy planes can reach Moscow is totally irrevelant.

Cannon's whole argument hinges on the ability of the B-36 to deliver atom bombs from bases in North America. He concedes that Russia would occupy the entire European continent within 90 days after opening of hostilities. Therefore, the B-36 would be our only offensive weapon, since no other land-based planes have sufficient range to operate from North American bases.

Not Enough. Now we believe, as Mr. Cannon apparently does, that the B-36 is capable of these ranges. We also believe it will have a measure of success comparable to that of World War II heavy bombers. But is this enough to win a war? Should we concentrate all of our defense appropriations on the belief that we can sit back securely at home and dispatch B-36's from home bases which will end the war in three weeks?

Paradoxically, Cannon himself doesn't think so. We quote the gentleman from Missouri: "Of course, a war could not be won by air power alone."

Such being the case, Mr. Cannon will have to admit that we will require some sort of service from the Navy. He says that its function is the maintenance of lines of communication and transportation. We think it would be something more than that. In any event we do need a Navy—we're agreed on that. Ergo, we'll need aviation support if that Navy is to function effectively.

"We have the greatest Navy in the world," said Mr. Cannon, "And we will keep it the greatest Navy in the world."

Knifing the Navy. Well, speaking air-wise, here's how Cannon's committee intends to maintain the greatest Navy in the world. The money appropriated for naval aviation for the coming year will require:

a) cancellation of *every* airframe and engine research and development project scheduled for the coming year;

b) construction of only 843 planes (380 less than this year);

c) operation of 2,930 planes less than the minimum required;

d) deactivation of three attack carriers, nine naval air stations, and four antisubmarine patrol squadrons;

e) a 16% reduction in aircraft overhauls;

f) discontinuance of Naval Reserve air groups on fleet carriers.

In addition, it lowers the naval aircraft manufacturers' ability to produce, since few companies build planes for both Air Force and Navy. The procurement cutback will reduce naval plane manufacturers to a far lower level of preparedness for emergency production than the current level. Further, it means a gradual decline in total air

CONVAIR B-36's—Can they win a war by themselves without Army or Navy help?

strength, for if you buy only 843 planes yearly, and each has a life of six years, then in six years you have only 5,058 planes, instead of the 7,783 authorized for the coming year.

Does that sound like maintaining the world's greatest Navy?

Reallocation Needed. We think the House has made a serious error in thus crippling naval air power. We hope the Senate will do something to rectify it. It wouldn't require any increase in the already staggering (16 billion) defense budget—just a more careful scrutiny of the proposed expenditures and a little reallocation. But more than that we hope that this Maginot Line type of thinking doesn't spread—for if it does we may be in trouble some day.

Strangest part of Mr. Cannon's remarks is the following:

"How can we forget the fatal decision of the French Chamber of Deputies on precisely the same question which is facing us here today? They were urged to build airplanes. But they declined on the ground that the airplane was useful only for reconnaissance, and their matchless army, protected by the impregnable Maginot Line, was invincible . . . Let us not make the same mistake."

Symington Gets Caught

W. Stuart Symington, Secretary of the Air Force, got caught with his hand in the jam pot. Rep. Albert J. Engel (R., Mich.), ranking Republican on the military subcommittee of Cannon's House Appropriations Committee, is the guy who caught him.

It seems as how Mr. S. had tried to pad the budget a few odd billions. Lt. Gen. Edward Rawlings, the Air Comptroller, had totted up the money the Air Force thought it would need to struggle through the coming year and it came to eight billion-odd. But Mr. S. said uh-uh, he wanted 11 billions.

"In fact," he said, quite candidly, "Gen. Rawlings and I had a little argument."

Symington admitted his guilt in testimony before the Appropriations subcommittee on the AF's 1950 budget.

"I would like to absolve the Air Force and take full responsibility for that myself," he said. (The printed hearings do not report whether he blushed.) The reason for his padding act, the Secretary explained, is that he had heard that the Army and Navy were going to ask for a big bundle, so he thought he would go along too, with a sublime disregard for military requirements and the poor benighted taxpayer. Of course, he shrugged, he knew it would never go through. "It was my thought that the higher the figure the more ridiculous it looked; and therefore it would force the services to buy and operate instead on the basis of an integrated plan."

Engel took a dim view of the padding attempt. He said he "cannot appreciate a policy of the armed services which will inflate the budget hoping to get something."

Production Spotlight

Gloom for Navy: Manufacturers who build planes for the Air Force are quite happy with the defense appropriations passed by the House, but Navy contractors are gloomy. The House voted appropriations of $6,215,709,000 for the Air Force, of which $2,217,775,000 will be used for the purchase of aircraft, guided missiles and electronic equipment, and for industrial mobilization. This will permit the Air Force to buy 2,550 planes at a total airframe weight of 41,840,000 lbs., which is 113 more planes and about 10,000,000 more airframe lbs. than will be purchased this year. The money appropriated will also permit the Air Force to operate 58 combat groups, which is just about current strength.

The Navy, however, did not fare so well. Where the Air Force was given $851,000,000 more than the President thought necessary, the Navy was not increased at all. The Navy was appropriated $681,546,000 in cash and contract authority for aviation. This will permit the procurement of only 843 planes during the coming fiscal year, 380 less than this year.

A last minute attempt to increase naval aviation funds by $300,000,000, permitting procurement of 1,265 planes, was defeated.

The Senate may still try to trim the Air Force's budget, but strong support in the House seemingly assures that the Air Force will continue at about its current strength. There was little hope in sight for the Navy.

Production Planning: *Large scale production planning programs, whereby airframes and engines would be ready for immediate high-volume production in an emergency, are in progress at both the Air Force and the Navy Bureau of Aeronautics. The Air Force plans to concentrate on engines in the coming fiscal year, which starts July 1. It will spend approximately $3,500,000 setting up tooling, fabrication of critical items, machine tool planning, plant lay-out, planning with licenses, etc. The engines selected for this program and the money to be spent on each are: General Electric J-47 jet, $825,000; Pratt and Whitney J-48 jet (see below), $800,000; Allison J-35 jet, $700,000; Allison J-33 jet, $650,000; Pratt and Whitney R-4360 Wasp Major piston, $300,000; others, such as light engines for trainers, etc., $155,672.*

The Navy Bureau of Aeronautics has $2,634,000 to spend for production planning, and it will concentrate on one engine and one airframe, both of which it declines to name for security reasons. In the current fiscal year, the Navy spent $1,002,359 for detailed planning work on the Lockheed P2V patrol bomber and $1,733,641 for similar plans for high-volume production of the Westinghouse J-34 jet engine.

Most Powerful Jet? *Another British jet engine has found its way to this country. It is the Rolls Royce Avon, a larger and more powerful version of the Nene engine now in service in both countries. Pratt and Whitney, already building the Nene for the Navy's Grumman F9F jet fighter, will also build the new version, which will be known as the J-48. It has been reported that the Avon is the most powerful jet engine in existence, with a static thrust rating of 6,500 lbs. The navy would not comment officially on the engine, but it is believed that it will be widely used by both services. An indication of that is the fact that the Air Force will spend $800,000 on J-48 production planning.*

Industry Briefs: **Douglas Aircraft** is working up plans for a Super DC-4 possibly using Wright R-1820 compound engines . . . **Northrop Aircraft** has completed the second model of its Air Force X-4, transonic research plane. It has been shipped to Muroc AFB, Calif., where No. 1 is now being test flown. . . . **Consolidated Vultee** has completed engineering on the P5Y Navy flying boat and is preparing for installation of Allison T-40 turbo-prop engines. . . . **Bell Aircraft's** X-1, Air Force special research plane which first flew faster than sound, is flying again at Muroc after a long lay-off. "Chuck" Yeager, first supersonic pilot, is still at the controls. Air Force cancellation of the **Boeing B-54** production contract may hurt some of Boeing's subcontractors. Boeing, looking for work to fill the gap at its Seattle plant, may withdraw some subcontracts. . . . Production models of the **Boeing B-47** jet bomber will differ considerably from the two prototypes now flying. Chief differences are substitution of General Electric J-47 engines for the Allison J-35's and a gross weight increase from 125,000 to 190,000 lbs.

—J. J. H.

PEOPLE

ADMINISTRATIVE

Curtis Barkes, who had been serving as assistant to the president in charge of finance for United Air Lines, was elected vice president—property and finance. Barkes has been in air transportation 24 years.

C. W. Jacob, vice president-secretary of American Airlines, has been named assistant to C. R. Smith, president, in addition to his vice presidential duties, and has moved his headquarters from Washington to AA's general offices in New York.

Lou Leavitt, formerly with Helicopter Air Transport at Camden, N. J., has been appointed to head Alaska Airlines' helicopter division, Leavitt has been flying rotary wing aircraft since 1932.

Robert C. Perry has been appointed regional director in Germany for Seaboard & Western Airlines. He succeeds **Robert Kincaid,** resigned.

Ray Connors, formerly district publicity manger for United Air Lines in New York, has been appointed to the public relations staff of Lockheed Aircraft Corp.

Joseph B. Marryat has been named southern regional director of public relations for American Airlines in Dallas, replacing **W. H. Hipple,** recently appointed director of public relations for the western region.

Philip Barry has been promoted from supervisor of personnel for Northeast Airlines to director of personnel.

OPERATIONS-MAINTENANCE

H. P. Morgan, formerly assistant to the managers of ground services for United Air Lines, has been appointed superintendent of communications for ground services, with headquarters at Denver. He started his airline career 21 years ago with National Air Transport, a predecessor company of United.

John C. Curtis, ground safety engineer for United Air Lines, with headquarters at Denver, recently received his 20-year pin from the company. He joined Boeing Air Transport, UAL predecessor company, in 1929 as a mechanic.

E. G. Lehnert, former station manager for Northwest Airlines at Chicago, has been appointed superintendent of stations (domestic) for the central area. **P. L. Benscoter,** who was assistant station manager in Chicago before going to the Orient two years ago to become station manager in Shanghai and subsequently in Tokyo, returns to Chicago as station manager.

Walter V. Satterthwaite, senior operations agent for Capital Airlines at Wheeling, W. Va., for nearly two years, has been appointed district operations manager in Clarksburg, W. Va.

UAL's Saleswomen— Plans to intensify the selling of air transportation to women were formulated at a recent meeting in San Francisco of United Air Lines' five women traffic representatives. B. B. Gragg, director of traffic and sales (left), told the group that one out of every three airline passengers today is a woman, and that this percentage could be raised by determined selling of women by women. Next to Gragg, left to right, are Genevive Gay (Seattle), Carol Bigelow (San Francisco), Helen Olson (Chicago), Bea Hansen (New York), Mary Francis Kelly (Los Angeles), and S. R. Newman, western regional director of traffic and sales.

TRAFFIC & SALES

E. O. Cocke, vice president-traffic, of Trans World Airline, will until further notice handle TWA's international sales functions. No successor has been named to **Charles L. Gallo,** who resigned as international general sales manager after serving with TWA since 1934 except for a three-year leave of absence.

Gerry W. Hawes has been appointed district sales manager for American Airlines in Cleveland. During his 13 years in air transportation, he has served previously as district sales manager in Buffalo and Washington and more recently has been director of special projects in AA's Chicago office.

Curtis Barkes
United's V.P.-Property & Finance

Morley Emerson, who has been specializing in international travel for Northwest Airlines, has been placed in charge of travel agency sales for the company in the Chicago district.

Jorge Brigard, who formerly had served as district traffic manager for Avianca in Bogota, regional manager in Cali and advertising manager, has been named United States representative for the Colombian airline.

Francois Micha, formerly with Pan American Airways in New York, has joined the New York sales staff of KLM Royal Dutch Airlines and will deal especially in transportation sales for Swissair, for which KLM is general agent.

T. W. Marshall, former traffic manager for Northwest Airlines at Tokyo, has been transferred to Manila as Philippine traffic manager. He has been with NWA since 1938.

M. O. Shuster, Jr., who has been district sales manager for Capital Airlines at Winston-Salem, N. C., for the past two years, has been appointed district sales manager in the Philadelphia-Reading area.

Richmond G. Terry, sales manager for American Airlines in Bridgeport for the past two years, has been appointed sales manager in Hartford, succeeding **John O. Briggs,** now New England regional director of sales.

Others in the News

David L. Behncke, president of the Air Line Pilots Association, has been re-elected president of the International Federation of Air Line Pilots. **A. P. Cane,** of the British ALPA, was elected vice president, and **D. Follows,** of the same organization, was elected secretary.

Charles Hart Miller, former executive vice president and general manager of Republic Aviation Corp. and more recently vice president of sales for the Glenn L. Martin Co., has been elected executive vice president of Piasecki Helicopter Corp., with supervision over administration and operation of all divisions except research and development.

Walther Prokosch has joined the consulting engineering firm of Knappen Tibbetts and Absbett, New York City. He will be in charge of the Airport Division. Prokosch was formerly vice president of George S. Armstrong & Co. of New York and prior to this was architect for Eastern Air Lines. He co-authored the book "Airport Planning" with Charles Froesch.

Prokosch

James E. Boyce, for the past two years director of European operations for the Charles Babb Co., has been appointed Lockheed Aircraft Corp. sales representative for Europe, Africa and the Near East, succeeding the late **Austin F. E. MacInerny,** with headquarters at Geneva, Switzerland. **R. H. Askew,** who joined Lockheed as export sales manager in 1946 after long service with Douglas Aircraft Co., has been named Lockheed sales manager for Australasia, India and the Far East.

John E. Somers, former CAA deputy administrator, has been named as CAA member of the Air Navigation Development Board. **Bert A. Denicke,** who has been acting CAA representative, will continue as executive secretary of ANDB.

George C. Schleter, who worked on blind landing systems at the National Bureau of Standards before the war and more recently has been engaged in microwave research at the Naval Research Laboratory, has rejoined the staff of the Bureau of Standards, where he will conduct an engineering development program on guided missiles and missile systems and components.

Lester C. Wallack and **Raymond C. Thompson,** both formerly of the Aero Insurance Underwriters, have formed their own firm at 111 John St., New York City, to handle aviation insurance problems of a claims and engineering nature, claims adjusting, airline and operational surveys, aircraft inspections, appraisals and prototype surveys.

Airline Commentary

By ERIC BRAMLEY

THE MORAL of this story is that the airlines, by collecting baggage checks, can save themselves much trouble. Jack Brough, Braniff Airways' director of ground operations, and John Cunningham, Mid-Continent's vice president-operations, have been friends for nigh on to 17 years. "Ever since the day we laid eyes on each other, we have been needling back and forth," says Brough. "The most recent session surrounds Mid-Continent's release of my baggage without requiring that I surrender the claim check. I checked in on Mid-Continent to go from Tulsa to Fort Smith. They were unable to accommodate me, account of load. They gave me my bag back and I hung on to the claim check. Upon returning to Dallas, I promptly filed a claim for the $100 acknowledged liability in Rule 16 of the tariff. Cunningham wrote me a letter special air mail that said, 'Are you kidding?' I replied special air mail, 'No', and sent him a photostatic copy of the claim check." Cunningham turned the file over to the claim department, but nobody could prove that Brough had received his bag. Somebody must have smelled a rat, though, for Brough says that "the last episode was a letter from John Cunningham telling me I was a jerk, and that if I didn't quit bothering him they would rescind my annual pass. At least we accomplished the desired results, and it is mighty difficult to get a bag from a Mid-Continent station without surrendering your claim check. I tried. We have had a similar campaign under way in our own organization, as there is no way of telling how many claims we have paid when the passenger actually did receive the bag, and we were unable to prove it." Seems like a worthwhile trick Brough pulled on his MCA friends. Maybe we'll try it on some of ours.

•

Not so long ago, a passenger on an air coach flight asked the stewardess what, in addition to the absence of food, made the big difference in fare from regular service. He noted that the plane certainly looked the same. The stewardess rushed up to the captain to ask for help in giving the gent a reply. "Tell him we use cheap reserve captains on the coach flights," the captain replied. We doubt if the stewardess passed on the information.

•

D. P. Jones, of Trans-Canada Air Lines in Montreal, noted that some time ago we had run an extra-long title that had been bestowed upon someone in TCA. So he thought we might be interested in his new title: Technical Assistant to the General Supervisor of International Facilitation Procedures. Jones, remarking that "I should live so long," adds: "I'm considering a second-section type business card."

•

Northwest Airlines' employes at Minneapolis-St. Paul airport were no end mystified this winter about a Ford that sat out in the parking lot for weeks at a time without being moved, according to the NWA News. Thinking that it might be a "hot" car, they checked on the license tags. Came the answer: it belonged to a wealthy construction man from Detroit who was so well-to-do that he had several cars spotted at airports around the country for his convenience. Somebody should refer this gentleman to the Hertz Driv-Ur-Self ad in OFFICIAL AIRLINE GUIDE. He'd probably save money using this system, instead of maintaining his own.

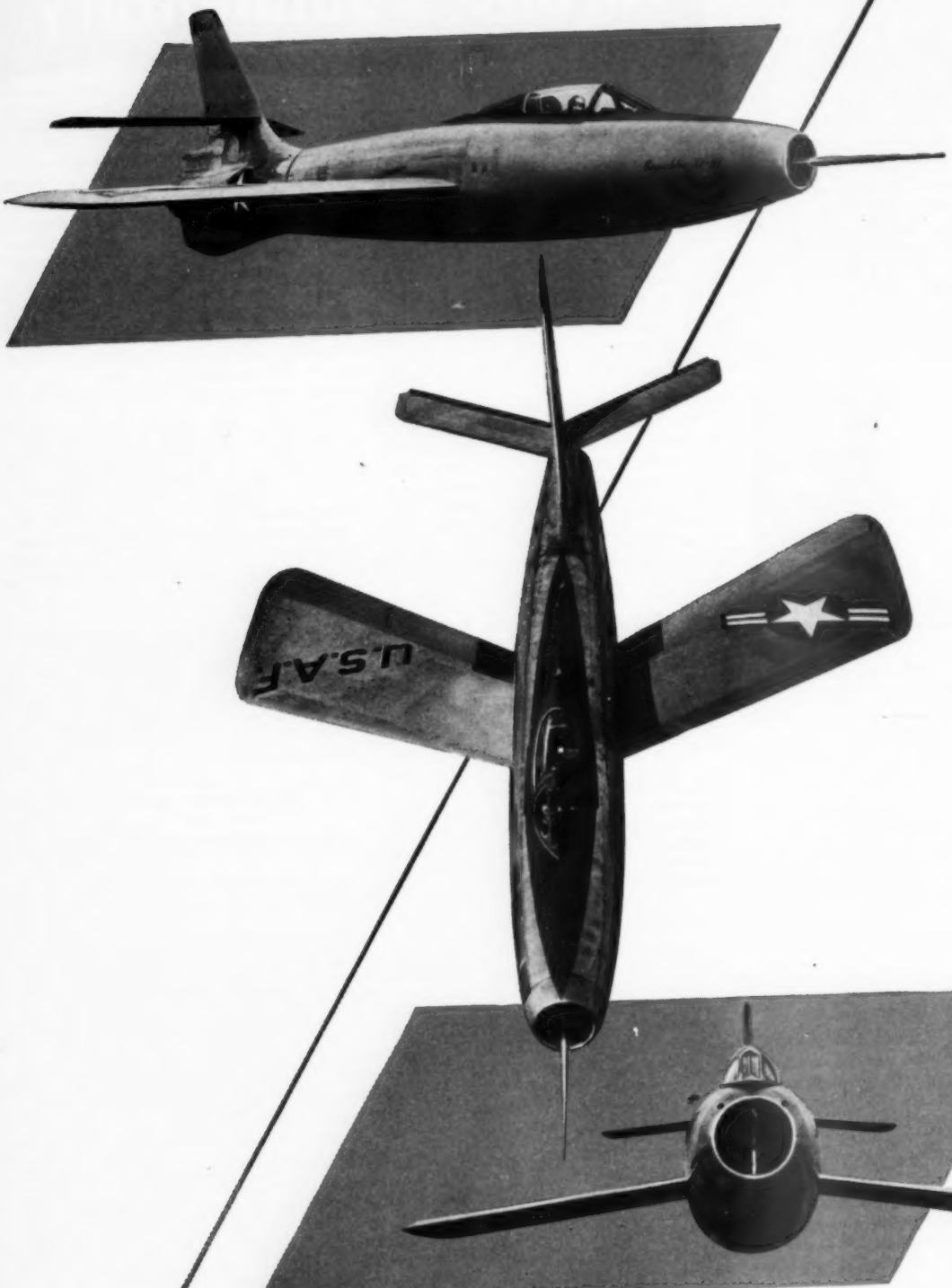
•

Odds and Ends: Heartfelt thanks to **Al Emery,** American Airlines' sales manager in Albany, who practically saved the life of one of our co-workers by coming up with a hotel room, thus averting a crisis and making unnecessary a night on a park bench . . . To the gent who signs himself **Richard Ellis** and who says he's going to write a book about airline stewardesses: are you sure you aren't maligning the poor girl? Anyway, let us have a look . . . Thanks to **Mason Mallory,** Western Air Lines' Minneapolis district sales manager, for pointing out that WAL had used Fred Kelley, one of its veteran pilots, on a speaking tour, thus beating our suggestion by a few months . . . Congrats to **Al Wash,** Northwest Airlines' Seattle publicity man, on a novel birth announcement.

•

Tapping New Markets: TWA sold an Albuquerque-Amarillo sky coach ticket to a lady who paid for it with an unemployment check from the state of New Mexico.

THIS IS THE XF-91



REPUBLIC AVIATION

Farmingdale, Long Island, N.Y.

Makers of the Mighty Thunderbolt · Thunderjet · XR-12 · XF-91

Capital Achieves Low-Cost DC-3 Fleet Modification

By William D. Perreault

Capital Airlines' employes affectionately term Route 51 as Tobacco Road. This is the route connecting Memphis and Norfolk and serving 13 cities. There are chances for delays at each of the stops on this roller-coaster flight and under the best of conditions ground time adds up to well over an hour.

Recently a flight on Route 51 was an hour and 15 minutes late on departure. Before reaching Norfolk it had made up the lost time and a little more. The flight actually arrived ahead of schedule, thanks to the modified DC-3 used on this particular flight.

Capital's engineering and maintenance departments have already completed modification of six DC-3's that are now operating regularly and airplanes 7 and 8 are in the hangar. The remaining 16 airplanes will be scheduled into the hangars at the rate of about one every 10 days. While in the shops, the airplane seating capacity is upped to 24, an integral loading ramp door and new cargo compartment door are added, and a considerable number of associated changes made.

Economical Handling. The modifications are made at a cost of about $10,000 per airplane or about one-fifth of the bid estimate given by a major outside company. The rapid scheduling and economical handling of this project by Capital is a tribute to the engineering and maintenance departments. Both of these groups report directly to J. B. Franklin, v.p. of operations, engineering, and maintenance. The engineering department, headed by Lan Caldwell; maintenance and overhaul departments at Washington, headed by P. B. Humphrys and the production and inspection department headed by H. D. Estey are carrying out the modifications without employing additional personnel and without serious interference with normal work loads.

Steve Wasuta is project engineer for the modification. E. G. Erickson and Frank Stowall provide engineering "know how" on weight and balance, miscellaneous systems and power plants as required.

Effective Cooperation. Possibly no place in the industry does an engineering group and maintenance function work so closely and yet maintain separate identity. Due to the limited engineering staff employed (the supervisor and four other engineers), it was not possible to have all the drawings for the DC-3 rework available at the start of the project.

As a result, although many drawings preceded the actual work, a considerable number were laid out and completed by maintenance, sketches were made by the drafting department, and only then were final engineering drawings made up. Chief draftsman Bob Brown and his fellow draftsmen worked overtime for two months expediting this project. Each successive plane has found both departments in a better position to expedite production.

The Work Program. As ships are scheduled into the hangar, the entire cabin is stripped and the rework started. Wing deicer lights are moved from their present location forward to make room for an additional window on each side of the cabin. The forward cabin bulkhead is moved ahead 40 inches to make room for the three new seats, and floor structure is prepared to handle the seat attachments.

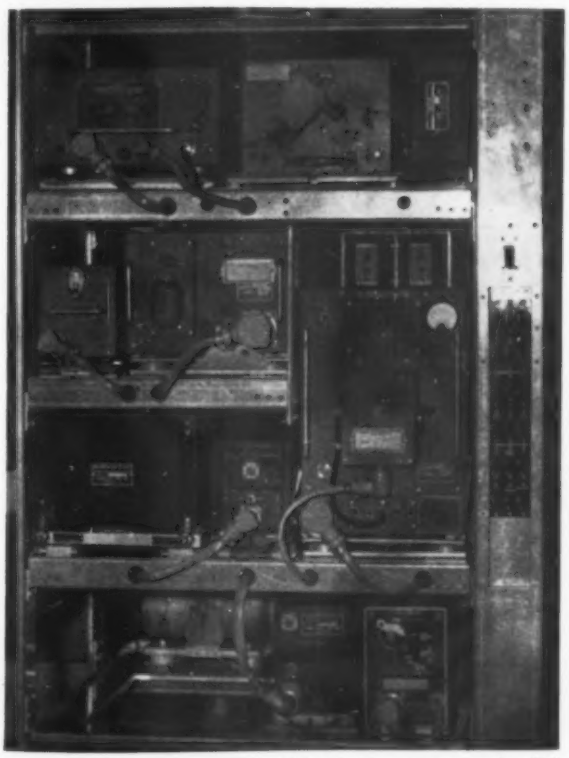
A miniature-sized lavatory has been designed for the area ahead of the forward bulkhead and on the right side of the fuselage. Total floor space in this compartment is less than five square feet. The room contains a minimum of equipment including a simple chemical toilet and a small wash basin. An access panel into the hydraulic equipment is provided on the forward wall of the lavatory.

On the left side of the companionway in this area, the radio department, headed by Earle Raymond, installed a new radio rack (see cut) which provides space for the communications and navigation equipment. Communications engineer W. S. Smoot worked with Raymond in programming this rework. The rack was planned to handle omnirange equipment in addtion to the present gear.

Working in the companion-way of the DC-3, without blocking general progress in this area, has always been a problem while the airplane is in the shop. To minimize this difficulty, and cut production time, the radio rack is partially wired before placement in the airplane. Louvres in the radio compartment housing and a suction clamshell on the fuselage exterior are expected to hold the temperatures in this area within limits.

The change requires considerable modification to the heater ducting in the forward cabin area. Capital uses the hot air heating system, the first of which Capital designed for its own use some eight years ago. The air ducts have to be reworked to provide the proper flow up front. The curvature of the fuselage in this section complicates the fabrication of suitable ducting. Providing new linkage for the heater controls is another problem.

Door Rework. The major change takes place in the area of the cabin door where the old door is removed, reworked with parts purchased from Metropolitan Air Parts in Van Nuys, Calif., and reinstalled as an intergral loading



Compact Radio Rack—This is the compact rack which Capital designed to bring all the communications and navigation equipment into the restricted space on the left side of the companionway. To simplify the modification and lower ultimate costs, the rack was partially wired before installation in the airplane. As installed in the airplane, the rack is enclosed in a well ventilated compartment.

© 1949, *Lockheed Aircraft Corp., Burbank, Calif.*

The Lockheed Constitution

NAVY'S
TWIN-DECK
TRANSPORT

The massive Lockheed Constitution heralds the coming low-cost air age. It will carry people far more economically than any other airplane flying today.

Five years ahead of its time, the Lockheed Constitution is an entirely new concept in intercontinental air transport.

It was designed and built for the U. S. Navy, which is now operating the huge twin-deck aircraft on transcontinental evaluation flights.

Lockheed

AIRCRAFT CORPORATION

Look to Lockheed for Leadership

The Constitution, which will carry 180 passengers, is currently on an exhibition tour of the principal cities of the United States.

ramp and door. In the maintenance department, R. J. Kenlan, supervisor of overhaul and maintenance, lays out the structural and interior changes. Working under Kenlan, Gus Furgal handles the sheet metal and welding crew while John Moore heads the paint and upholstery crew. Both groups have major work in this program.

The rear cargo compartment door is enlarged and hinged from the topside. Marco board is used to line the floor and side walls half way up the fuselage sides. A special four tier baggage rack is installed immediately opposite the passenger entrance door and straps provided across each shelf to hold baggage in place. A bench is provided in the rear cargo compartment on the left side of the fuselage for food carrying racks. A special spring loaded arrangement on the rear wall of the cabin is used to hold one rack at a time to facilitate serving.

The rear cargo compartment extends forward along the right side of the fuselage to a point just aft of the baggage rack. On the aisle side of the compartment bulkhead at this point provisions are made for a simple fluid dispensing alcove. Two thermos jugs are held in place on the cargo side of the compartment with just the faucets visible from the aisle. The jugs are held in place by bungee cords.

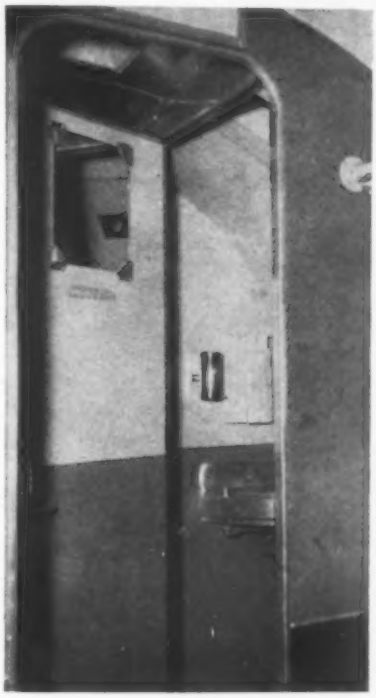
The main cabin door rework into passenger stairs and door combination still offers problems. To ease maintenance on the door, Capital manufactured a dampening device using a steel cylinder and a brass piston with felt washers. As the door extends, this dampener insures gentle bottoming. To provide adequate lighting on the step, a special light has been mounted on the fuselage aft of the door. An ordinary navigation light was used for this application but the topside of the lens was etched to direct the light downward onto the step.

General Problems. As is the case with all the airlines using this door, there is some concern over a more adequate method of securing the door during flight. Several instances of a door having opened in flight have been reported by other lines. CAA regulations prevent the use of a double latch arrangement on the main cabin entrance door.

An instance was reported recently in which a passenger on one trip found the opportunity to open the door in flight to dispose of a cigarette. Fortunately, the open door had very little effect on the ship's flight characteristics and the passenger did not follow his cigarette. The problem is being studied.

Use of the new door makes the change from stewardess to steward quite important. To date Capital has been able to absorb the displaced stewardesses into DC-4 operations.

The cabin interior color scheme remains the same as before—rust color on the seat backs, lower walls and center rug; gray on the balance of the seat, upper wall and side rugs. The curtains are green.



Space Saver—Considerable space economy was accomplished by moving the lavatory to a new location at the forward end of the cabin. As shown here, the new lavatory is forward of the front cabin bulkhead and its area has been reduced so that floor space is less than 5 square feet. Behind the open lavatory door is another door leading into the cockpit.

The modified airplanes, powered by Wright G-102A engines, have an empty operating weight of about 17,346 pounds. With 933 pounds allowed for crew and equipment, the empty operating weight is about 18,125 pounds. Capital's steps in modifying the DC-3 have already proved worthwhile, although only six of the airplanes are in service. If Capital should decide to adopt the Super DC-3, as proposed by Douglas, the work already accomplished in this direction would substantially lower the cost.

Dispatcher's Course. Taloa Academy of Aeronautics, division of Transocean Air Lines, has established an airline dispatcher's course. The course includes 297 hours of instruction and will be available in night and day classes ranging in duration from 12 to 20 weeks. The course, which will cost $320, will include 15 hours of Link trainer instruction to familiarize students with flight orientation.

Ever try to live up to a reputation?

IT KEEPS me on my toes—being all that people think I am. The other day one of my passengers wrote to United Air Lines in these words (and I quote):

"I wish to express my appreciation for the very courteous and extremely efficient service given me while in flight to San Francisco. I have traveled all over the world and have never been treated so well."

Whew! Am I really that good? Of course, I know he was influenced by other things. United's fast, friendly reservations service, for instance—our fine airplanes—the way our experienced pilots handle their Mainliners. But even so, it makes me proud of my own job as a member of the United team, serving the public from coast to coast over the Main Line Airway.

Mary Mainliner

P. S. I'll enjoy showing *you* what Mainliner service is like, next time you travel. M. M.

UNITED AIR LINES

Copyright 1949, United Air Lines

How to Get the Most Out of New Transports

A major factor minimizing the value of any conference is the failure of participants to speak their mind. A refreshing change was experienced at the recent SAE national aeronautic and air transport meeting in New York when William Littlewood, director of engineering for American Airlines, took over the rostrum to summarize the all day session on "Getting the Most Out of Our New Transports."

Littlewood

Littlewood's summary was controversial, impartial, covered the range of the day's discussion and was one of the best received of all the papers delivered during the four-day conference. For these reasons, excerpts from his summary of the day's happenings are given here:

My first observation is reassuring and to the effect that all these people are very human. There is, throughout each of their discussions, a mild implication that we are doing the best we can and it's pretty good—and if it's not better, the fault is largely yours.

The manufacturer almost invariably finds his equipment somewhat abused, and the people who operate and care for it slightly ignorant and undertrained; and the airline representatives just as commonly find the aircraft and its equipment rather puny and unnecessarily complex, and the manufacturers not entirely receptive to their most excellent suggestions . . .

Dreamers

I find fundamentally, throughout today's discussions, certain very broad agreements which I would like to summarize . . . I would like to comment first on another very human tendency generally expressed in the formal presentations of today's discussers. Our subject has been "Getting the Most Out of Our New Transports", and still I find a very substantial part of the discussions devoted to future products and their bright promise. There is an apparent unwillingness to deal as extensively and frankly as we might desire with today's problems . . .

The air transport industry has not only been met from time to time with a general indication of this understandable but rather regrettable attitude on the part of the manufacturers, but in specific instances, has been told that no more development will be carried on with "that obsolescent item which we are about to replace with a new and improved article." All this in spite of the obvious continuing operation of the obsolescent article and the existence of many unsolved problems of reliability and economy.

Today's Problems Today

So—the first problem in getting the best out of our new transports is to have all of us consider first our present new transports and their equipment, and be somewhat less intrigued with a hoped-for Utopia of trouble-free operation to be reached with new models such as history has conclusively shown will undoubtedly have other and different families of troubles not recognizable today.

Until (these transports) are doing a better job than we are able to demonstate today, both reliability and costwise, let us keep our service engineering and, to a substantial extent, our development engineering attention directed to the correction of present deficiencies . . . To some extent, the airlines and their managements are just as guilty as the aircraft manufacturers in this respect.

Change is not always improvement, and it's pretty easy to show that in the complex technical field of aireraft design, manufacture and operation, practical success has been largely achieved by refinement and not by the pursuit of elusive will-O-the-wisps. I plead, therefore for stability of thought and action . . .

Deficiency Cited

I find a general agreement among the manufacturer's representatives that they have a distinct responsibility to provide fully adequate operational, engineering and service information for the instruction and guidance of the operators. This is a fine expression of principle. Its implementation in the past, however, has been sadly deficient.

In spite of contractural requirements to the contrary, it has almost universally been months after the delivery of the first article for operation that there has been available to the operators adequate manual information or parts lists . . . It has been almost surprising to find the operation of aircraft permitted without the prior existence of adequate and up-to-date service information.

Self Help Needed

On the other side of this picture, manufacturers have expressed, and I believe the operators must accept, a need for more adequate training of operating personnel,—flight, engineering, maintenance, and overhaul, to handle the technically complex aircraft and equipment of today. There is far too much complacence in this matter on the part of the operators, apparently based on some misconception that

"heaven will provide." A much more appropriate reference would possibly be, "The Lord helps those who help themselves."

State of the Art

It is partly evident from the discussions today and much more so from the realm of experience, that the manufacturers have on many occasions failed to thoroughly and open-mindedly investigate and determine the real purpose and needs of their product . . . the product shall be suitable for the purpose intended.

It should not be difficult to agree that a faucet is intended to turn on and off a flow of liquid—usually water—at the will and with the facile manipulation of the operator. There is certainly no question of the state of the art of faucet design. Why, therefore, should an air transport airplane customer be expected to accept and be content with a faucet which frequently will not turn on when desired—more often will not turn off once the flow is started—and in general has characteristics of a thoroughly defective piece of 10c plumbing.

The request, therefore, and I might almost say—demand—is for recognition of the principle that "the product shall be suitable for the purpose intended," based on a thoughtful analysis of its use and operation.

Everyone At Fault

With respect to this problem (complexity) and with respect to obviously desirable standardization, I hold both operators and manufacturers—and to some extent—the regulatory agencies all at fault.

Much of our complexity has been created by a laissez faire attitude on the part of the operators—an unwillingness to help by constructive suggestion or agreed simplification. There has also been a strange reluctance and, to some extent, an inability on the part of the operators to control their own desires both within individual companies and within the industry, and to achieve an expression of unified simplification . . .

The Airline's Part

On the contrary, the airlines—individually and collectively—have made demands for accomplishments which could only be satisfied by the inclusion of complication upon complication. Every demand has been accompanied by an expressed doubt, so that we end up with an instrument to check the instrument, and a control to control the control—double, triple and quadruple alternates. The wish is expressed, the demand is made, the requirement is met—and we all end up very complex and unhappy.

The Manufacturer's Part

I have listened while the aircraft manufacturers have accused the operators of fostering non-standardization . . . If I were to submit to some half dozen aircraft manufacturers identical requirement specifications for an air transport airplane and would thereafter, in due course examine their proposals, I guarantee to you without fear of denial, that the products submitted would bear resemblance to one another only in that they would probably have wings, fuselages, empennages, landing gears and powerplants.

Any remote similarity between the details of construction or arrangement of the powerplant installations, or the cockpit, or the controls, or the systems, would be, I assure you, purely accidental . . . I sincerely hope and expect that . . . the SAE and other technical agencies which have worked so diligently in the field of detailed standardization of aircraft and their elements will continue their efforts.

We all need a great deal more training. We all need a fuller recognition of our mutual problems and their frank acceptance and solution. None of us can do the job alone. We must do it together with mutual respect and confidence.

Award Winner—Kermit E. Van Every, chief of aerodynamics for the Douglas Aircraft Co., Inc., was awarded the Wright Brothers Medal for 1948 during the annual aeronautic and air transport meeting in New York. The award was made for his paper "Aerodynamics of High Speed Airplanes" which he presented at the SAE aeronautics meeting in Los Angeles last October.

American Decentralizes Operations Department

American Airlines has decentralized its operations department through the establishment of four geographical regions with regional operations directors in charge of each unit. Under this arrangement the policy making functions will be separated from the daily detail of operating the airline.

Appointed to the newly created positions as regional operations directors are T. L. Boyd, eastern region, based

DINKLER HOTELS
EACH ONE "TOPS"
IN THESE SEVEN, GREAT SOUTHERN CITIES
In Atlanta • THE ANSLEY
Joe Croty, Manager
In Birmingham • THE TUTWILER
Ira Patton, Manager
In Montgomery • THE JEFFERSON DAVIS
Homer Spiva, Manager
In Nashville • THE ANDREW JACKSON
Leon Womble, Manager
In New Orleans • THE ST. CHARLES
J. J. (Mike) O'Leary, Vice Pres. & Mgr.
In Savannah • THE SAVANNAH
George Fowler, Manager
In Louisville • THE KENTUCKY
James E. Rushin, Manager
Carling Dinkler, President

AVIATION UNIFORMS and INSIGNIA

Serving These Airlines
Alaska
American
Avensa
Aviateca
C. A. T. C.
Eastern
Ethiopian
F. A. M. A.
L. A. V.
Pan American
Philippine
Piedmont
Scandinavian
T. W. A.
United
and many others.
RUSSELL UNIFORM CO.
1600 BROADWAY, NEW YORK, 19
Send for Catalog No. C-54

at New York; W. B. Whitacre, central region, based at Chicago; W. P. McFail, southern region, based at Ft. Worth, and Gage Mace, western region, based at Los Angeles.

The eastern region includes New England, New York, and other eastern states. The central region covers the middle west, while the southern region includes the southwest, except for California and Arizona which make up the western region. All regional directors report to L. G. Fritz, vice president-operations.

DeHavilland Jet Transport Expected to Fly This Year

The DeHavilland Aircraft Co. has released a few details regarding the DH106 Comet jet transport, the plane with which the British hope to meet all competitors. DeHavilland has orders for 16 transports, two of which will go to the Ministry of Supply and 14 to British Overseas Airways Corp. and British South African Airways. The first airplane is expected to fly this year.

The DH106 is a low wing monoplane powered by four Ghost jets with 5,000 pounds thrust each and propelling the aircraft at about 500 mph. The wings have moderate sweep-back and wing loading "will be moderate, less than that of some conventional propeller-driven airliners . . . and the stalling speed will be correspondingly modest." It is designed for a crew of four and 36 passengers and is expected to cruise at an altitude of about 40,000 feet.

The main landing gears will restract outward and the nose wheel will be steerable. It features thermal type deicing, underwing pressure refueling and power operated primary controls. A Smith's electronic auto pilot will be used.

The manufacturer is withholding all photographs and sketches for competitive reasons.

10-Engine Flying Boat

The Society of British Aircraft Constructors has announced that the first Saunders-Roe 10-engined flying boat will be launched in December, 1950. Of seven of the turbo-prop powered aircraft to be built, one will fly early in 1951, the second and third during the latter part of that year and the remainder in 1952 and 1953.

The Saunders-Roe boats were originally intended to fly between Britain and New York where their 5500 mile range with 20-22,000 pound payload would make them most valuable; however, present plans call for initial use between Britain and South America.

The engines used in the 10 engine ship are Bristol Proteus turbo-props, eight in pairs and two separate units in the extreme outer wing positions. Cruising speed of 380 mph is claimed with spacious accommodations for up to 100 passengers.

Pan American Reorganizes Latin American Operations

Pan American Airways has reorganized the administrative set-up in the Latin American Division to bring Santoa Ceyanes, former assistant operations manager, into the new post of ground operations manager with general supervision over airways, stations, communications and the ground training school. Flight operations continue under the direction of chief pilot Lewis C. Lindsey, while the Miami overhaul base remains under the direction of Joseph J. Dysart, maintenance manager, and Rahland C. Zinn, division engineer. Both Lindsey and Dysart report directly to Capt. O. J. Studeman, division operations manager.

Ceyanes

Jasper N. Barnette, Jr., has been named superintendent of schedules on Studeman's staff. Barnette formerly held this post before going with the Atlantic Division as assistant to v.p. Erwin L. Balluder. Walter R. Oesting, acting superintendent of schedules during Barnette's N. Y. assignment, becomes chief dispatcher of the LAD under the new organization.

Plane Briefs

Canadair Ltd. has delivered the first of 22 Canadair 4's to British Overseas Airways Corp. two months ahead of schedule. In six months Canadair programmed and completed the actual construction of the first airplane. In addition to the $21.5 million dollar BOAC order, Canadair will manufacture four planes for Canadian Pacific Air Lines.

FAMA, Argentine international carrier, has replaced its DC-4's on the Buenos Aires-Santiago route with DC-6's. Panagra is also using DC-6's on this route and LAN, Chilean airlines, is flying Martin 2-0-2's.

Island Air Ferries, conditionally certificated to serve a Long Island-New England route, has purchased two DC-3

1949-50
1948
1947
1946
1945
1944
1943
just plane addition . .
. . . points to leadership of Janitrol heaters. The C-54, now dramatically serving in the Airlift, is one of many fine aircraft equipped with
Janitrol
AIRCRAFT HEATERS with the whirling flame
SURFACE COMBUSTION CORP., TOLEDO 1, OHIO

OPERATIONS-MAINTENANCE

aircraft. IAF operates out of McArthur Airport at Sayville, Long Island.

KLM Royal Dutch Airlines on April 3 replaced its DC-3 and DC-4 equipment used on routes to Switzerland, Scandinavia, Italy, Greece, England, France and Germany, with Convairs and Constellations.

Northeast Airlines started Convair operations on Apr. 24. Northeast's pilots have been routed through American Airlines' school at Ardmore and a number of mechanics have trained with Pan American at Miami. The line has a fleet of five Convairs.

Northwest Airlines' first Boeing Stratocruiser has made its initial flight test. The Boeing's will be used on the Seattle-Tacoma-New York route and between Seattle and Honolulu as soon as flight tests and training have been completed.

Northwest Airlines has modified a number of DC-4 airplanes to be used for passenger-cargo operations on its coast-to-coast coach-type service. The airplanes will have 11 fixed seats at the rear of the cabin and 44 collapsible seats in two seat units in the rest of the area. Any variation of seats and cargo space can be easily provided for in this airplane in a few minutes time.

Trans-Australia Airlines is averaging 13 hours utilization per day with its Convair-Liners and experiencing load factor averages of 92% as compared with 72% on all other equipment.

OVERHAUL

Boeing Airplane Co. has signed an agreement naming Lockheed Aircraft Service, Inc. as an authorized maintenance and service facility for the Boeing Stratocruiser. Lockheed will send key men to the Boeing training school

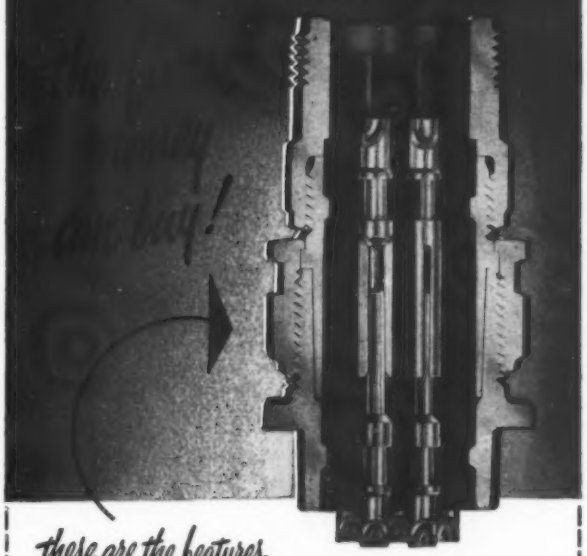
Airwork Corp., Municipal Airport, Millville, N. J. has signed contracts with Pakistan Royal Air Force for the overhaul of an undisclosed number of Pratt and Whitney R-1340 engines and with the Chinese Air Force for the overhaul of 50 Pratt and Whitney R-1830-92 engines for C-47 airplanes. The latter contract is for about $150,000. Airwork recently signed a contract with All American Airways for the overhaul of their P&W R-1830 engines during the first year of AAA's transport operation.

Air Carrier Engine Service, Inc. located at Miami International Airport has entered into an agreement with Aerovias Brasil, S. A. for the overhaul and installation of all aircraft engines, accessories and propellers used on AB's fleet of DC-3's and C-47's.

AiResearch Aviation Service Co. has increased hangar space at the Los Angeles Airport, from 20,000 to 30,000 square feet, and increased employment by 30%. AASC's contracts for modification of transport aircraft into executive transports include a B-25 for Continental Oil Co.; a B-23 for D. D. Feldman, oil executive; DC-3's for Tobin Aerial Survey of Texas, and Thompson Products Co. of Ohio. These contracts for interior and exterior appointments represent over $400,000 worth of business.

BENDIX-SCINTILLA

ELECTRICAL CONNECTORS



these are the features

THAT HAVE MADE IT *the* ELECTRICAL CONNECTOR

- Moisture-proof, Pressure-tight
- Radio Quiet
- Single-piece Inserts
- Vibration-proof
- Light Weight
- High Arc Resistance
- Easy Assembly and Disassembly
- Fewer Parts than any other Connector
- Contacts filled with high-grade solder to insure top performance.

Plus this Important Advantage—

PRACTICALLY NO VOLTAGE DROP!

Contacts that carry maximum currents with a minimum voltage drop are only part of the many new advantages you get with Bendix-Scintilla* Electrical Connectors. The use of "Scinflex" dielectric material, an exclusive new Bendix-Scintilla development of outstanding stability, increases resistance to flashover and creepage. In temperature extremes, from −67° F. to +300° F., performance is remarkable. Dielectric strength is never less than 300 volts per mil. Bendix-Scintilla Connectors have fewer parts than any other connector on the market—and that means lower maintenance costs and better performance.

*TRADEMARK

Write to our Sales Department for more detailed information.

BENDIX SCINTILLA

SCINTILLA MAGNETO DIVISION OF SIDNEY, NEW YORK

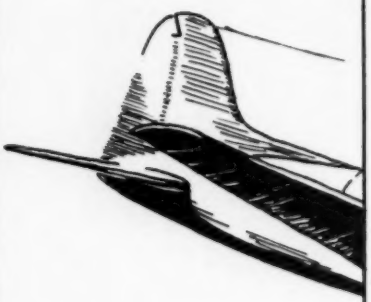
Export Sales: Bendix International Division, 72 Fifth Avenue, N. Y. 11, N. Y.

TULSA

WELCOMES THE

Air World

"One of the most beautiful and modern airports in the land"



"Six large runways totalling over eight miles in length—latest lighting systems—I.L.S. approach system—1,870 acres planted with luxuriant Bermuda grass. . ."

"The eyecatching Terminal Building called by many one of the most beautiful airport terminals in the country—spacious hangars—efficient taxi-ways."

"The Tulsa Municipal Airport has all this to offer, and more, to the air world of today and tomorrow. . . ."

•

C. W. SHORT, JR., *Manager*

•

TULSA MUNICIPAL AIRPORT

TULSA 1, OKLAHOMA

Among the Suppliers

Industrial Associates, Inc., 8845 W. Olympic Blvd., Beverly Hills, Calif., has been named exclusive distributor of **U. S. Rubber** aviation products in Southern California. Both domestic and export shipments will be handled by this division . . . **Western Aero Supply Corp.** San Antonio, Tex., has been appointed distributor for **Monsanto Chemical Co.'s** flame resistant aircraft finish, Skylac.

Marcus Transformer Co., Inc., Hillside, N. J., has appointed the **Electrical Apparatus Co.,** 1200 Soldiers Field Road, Boston 34, Mass., as territorial representative in the New England Area. . . **Frank H. Rousseau,** manufacturer's agent with headquarters in the Transatlantic Building, Montreal Airport, Dorval, Canada, has been appointed Canadian distributor of aircraft products of the **Barber-Colman Co.** of Rockford, Ill., Rousseau also has distributorships for Safetee Glass Co., Philadelphia, Pa. and Rochester Ropes, Inc., Culpepper, Va.

George E. Lam, formerly superintendent of maintenance for Pacific Overseas Airlines, has been appointed general works manager of **Aviation Maintenance Corp.** where he will be in charge of all overhaul and production shops.

Aro Sales & Service, Inc., a newly formed California corporation, has been appointed as sole distributor of products of the **Aro Equipment Corp.** on the Pacific Coast. AS&S maintains headquarters at 2023 South Grand Avenue, Los Angeles 7, Calif and has a branch office at 766 Brannan Street in San Francisco. **J. E. Allen** is president of Aro Sales & Service, **L. W. Lisle,** secretary & treasurer, and **W. D. Edwards,** vice president.

Bendix Radio, Communications Division of Bendix Aviation Corp., has appointed **Arnold Rosenberg** assistant general sales manager. He has been with Bendix since its formation in 1937.

Daily Plane Utilization

Domestic Airlines

		Jan.	Feb.
AA	2 eng. pass.	2:38	2:55
	4 eng. pass.	5:04	7:22
	cargo	2:56	3:15
Bnf.	2 eng. pass.	6:16	7:47
	4 eng. pass.	4:40	5:13
Capital	2 eng. pass.	7:38	8:46
	4 eng. pass.	6:04	6:33
	cargo	3:26	3:27
Carib.	2 eng. pass.	3:55	4:25
C & S	2 eng. pass.	7:19	8:29
	4 eng. pass.	6:57	7:27
Col.	2 eng. pass.	4:51	5:27
CAL	2 eng. pass.	5:29	6:29
Delta	2 eng. pass.	6:50	7:35
	4 eng. pass.	4:28	5:12
	cargo	5:59	6:48
EAL	2 eng. pass.	10:27	11:19
	4 eng. pass.	8:37	9:32
	cargo	6:12	7:21
Haw.	2 eng. pass.	4:52	4:21
	cargo	1:34	1:36
Inland	2 eng. pass.	7:30	8:14
MCA	2 eng. pass.	6:20	7:17
NAL	2 eng. pass.	3:18	3:19
	4 eng. pass.	7:46	8:36
NEA	2 eng. pass.	6:02	6:30
	4 eng. pass.	2:46	3:20
NWA	2 eng. pass.	3:40	3:57
	4 eng. pass.	7:31	7:36
	cargo	3:23	3:43
TWA	2 eng. pass.	6:41	7:56
	4 eng. pass.	7:23	8:19
	cargo	4:20	5:51
UAL	2 eng. pass.	4:08	4:36
	4 eng. pass.	5:23	5:50
	cargo	2:43	2:47
WAL	2 eng. pass.	4:47	5:04
	4 eng. pass.	2:44	2:05

TECHNICAL LITERATURE

Cee-Bee Brightener: Cee-Bee Chemical Co., 655 E. Gage Ave., Los Angeles 1, Calif., has published a 4-page bulletin describing A-5 brightener which is used to remove heavy deposits of oxide and for brightening of corroded aluminum alloy. The manufacturer states that the brightener is not an etching compound and is safe on aluminum.

High Intensity Lights: Westinghouse Electric Corp., Box 868, Pittsburgh 30, Pa., is circulating an 8-page booklet covering the construction, performance and installation of Westinghouse type HL high intensity runway lights. The lighting covered provides high intensity light for low-visibility conditions and standard elevated runway light for normal visibility. Copies are available on request.

Selenium Rectifiers: Fansteel Metallurgical Corp., North Chicago, Ill., has released an 18-page booklet on Selenium rectifiers. The booklet, available on request, provides a comprehensive coverage of rectifiers, including charts and tables on cell sizes and ratings, construction, protective coatings, forward and reverse resistance characteristics, grading of cells, efficiency, typical rectifier circuits, circuit formulae and constants, regulation, capacitance, aging, voltage doubler circuits, operation, temperature ranges, forced cooling, oil immersion, intermittent operation, high voltage rectifiers, and suggestions for keeping cost down.

Fueling Hose: The Wayne Pump Co., Fort Wayne 4, Ind., has published an instructive booklet on Wayne Collaps-A-Hose system for faster, safer aircraft fueling. Providing a fueling rate up to 200 gallons per minute, the Wayne system does so without creating high velocity impact on tank structures or excessive pressure in the system. By collapsing the hose when it is not in use, the system is able to utilize larger size hose. The booklet diagrams the system's operation and gives engineering data and dimensional drawings.

Johns-Manville Products: Johns Manville, 22 East 40th St., New York 16, N. Y., has available an 8-page brochure titled "Johns-Manville Products for the Aviation Industry." The booklet contains detailed information for those concerned with the design, manufacture and maintenance of aircraft. Included in the data is information on inconel packings, sheet packings and gasketing, asbestos millboard, asbestos textiles, dieformed asbestos packing rings and clipper seals. Construction, size and other pertinent data is given in easy-to-use tables.

Metal Forging: Drop Forging Association, 605 Hanna Bldg., Cleveland 15, O., has published a reference booklet covering the development of metal quality progressively throughout hot working operations, from the blast furnace to the finished forging. Steps in making forging dies and the various methods and equipment used in hot working steel by forging are reviewed as well as economic advantages of forgings.

Extra Section

By William D. Perreault

ONE OF THE BEST sales-service ideas to come along recently is a magazine titled *Aircraft Heating Digest* which has been started by the Janitrol Aircraft Division of Surface Combustion Corp. Janitrol's problem, like most manufturers', is to insure that its installations get the kind of service necessary for long and trouble-free operation. The first edition of the new digest, which will provide continuity of current information, contains a simple explanation of combustion heater operation, principles of the whirling flame design, tables of conversion constants relating to heater design and operation and basic fan laws which should be of value. A simple description of the combustion heater set-up for DC-3 aircraft and a summary of ignition system facts is also included. A letter to the Aircraft-Automotive Division, Surface Combustion Corp., 400 Dublin Ave., Columbus 16, Ohio, will serve to place engineers, maintenance men and related groups on the mailing list for this free service publication.

•

Thousands of mechanics, engineers and pilots that used the Pilot's Powerplant Manual, Civil Aeronautics Bulletin 28, as a text for training in their respective fields, will be pleased to hear of the revised edition of this great book. The new manual retains the great bulk of the original text but has been brought up to date and includes some material on turbo-jet, turbo-prop and compound engines. At $1.25, Aircraft Powerplant Handbook, as the revised edition is known, is the best buy in the field. Credit for the new edition goes to CAA's Powerplant Engineering Division which handled the project.

•

An interesting discussion at the recent ATA engineering and maintenance conference dealt with protection of electrical units from overloads. It was news to many that the aircraft manufacturer makes no attempt to protect the operating unit. The circuit breaker or fuse in use is for the system wiring, not the operating unit. Indications are that very little will be done about protecting the units unless there are strong industry demands. A number of the airline people felt that the present rate of failures due to overloads and the high cost of replacements calls for industry action. It was pointed out that the protection would probably have to be a heat detecting device in order to be effective and, except by considerable complexity in system arrangement, it would not be possible to over-ride the protective device.

•

A number of the airlines have been changing combustion heaters to meet the operation specification requirements on a time element that parallels aircraft flight time. For example, if the heater overhaul time is 1,000 hours, then the heaters are changed at 1,000 hours of ship's flight time. Needless to say, the heater operates but a relatively small portion of this time. Northwest Airlines is using a timer that operates whenever the heater switch is "on" and is getting greater utilization out of the heater. The heater overhaul periods become critical on the Boeing 377 with eight units for thermal deicing in addition to the two units used for cabin heating.

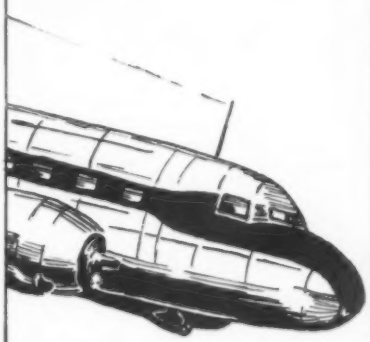
•

In NACA's annual report mention is made of a new instrument "intended to eliminate human judgment in reporting the intensity and frequency of gusts encountered in flight. The instrument, known as a turbulence indicator, operates from the airplane's pitot-static head to measure small increments in forward velocity of the airplane resulting from gusts. The turbulence indicator counts the number of gusts that result in a speed change greater than 10 feet per second and records the magnitude of the strongest gust encountered in any period of time. The instrument has been tested in flight on a B-29 airplane by the Air Weather Service and satisfactory performance was obtained." With increasing aircraft speeds, particularly the speeds of jet aircraft, gusts become increasingly important and accurate recordation will prove an important factor.

TULSA
WELCOMES THE
Air World

"New plans, beginning this year, call for unparalleled improvements—new steel and stucco, 75' high control tower housing only the most modern equipment. . . ."

"High intensity lighting on one 7,000' runway will make it available for all emergencies —new taxi-ways to runways."



"A modern, new terminal building also planned, favorably located to handle increased number of airline passengers and private flyers. . . ."

"One of the most beautiful and modern airports in the land"

•

C. W. SHORT, JR., *Manager*

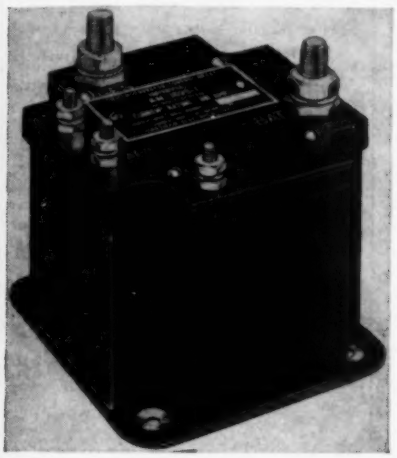
•

TULSA MUNICIPAL AIRPORT
TULSA 1, OKLAHOMA

NEW PRODUCTS

Generator Control Relay

The Hartman Electrical Manufacturing Co., 175 N. Diamond St., Mansfield, Ohio, is marketing a new differential type generator control relay for aircraft, marine, and stationary powerplant and other applications. Known as the A-700A relay, the new model is designed to operate with any DC generator to a maximum capacity of 300 amperes and a normal regulated voltage of 28.5 volts. Twelve volt units are available on special order. The A-700A



conforms to Air Force Specification AN-S-42a and is designed for rated operation from sea level to 50,000 feet at ambient temperatures ranging from —67 degrees to 160 degrees F. It is in an aluminum housing and weighs 2½ pounds.

Vibration-Proof Connector

Cannon Electric Development Co., 3209 Humboldt St., Los Angeles 31, Calif., has introduced a new vibration-proof connector which is radio shielded, pressureproof and waterproof as well as usable at higher temperatures than with previous melamine inserts. The new series supplants the former 2581, 2582, 2584, 2585 and types VP and VPA connectors and is available in (AN) 3102, 3100, 3106, and 3108 types.

Resistance to vibration is accomplished by dual locking action of the dural coupling nut and the retainer nut, both drilled for safety wire, together with the special resilient insert material and rubber grommet. The units have been tested in aircraft operation to 30 G's and at temperatures from minus 70 degrees F. to plus 390 degrees. Shell material is aluminum alloy with dural coupling nuts. A bulletin on this new connector, presently identified by the shell prefix followed by the letters AF, (08 AF) is available from manufacturer.

Expansion-Type Rivet

Aviation Developments, Inc., subsidiary of Aviation Developments, Ltd., of London is introducing to aircraft manufacturing in this country an expansion-type blind rivet, which is installed with an internal broaching mandrel. The U. S. company has been licensed to manufacture the Chobert rivet which is used on most of the aircraft made in Britain. Stanley T. Johnson, managing director of the British company has been elected president of the American subsidiary company and has opened new offices at Pacific Airmotive Corp., Burbank, Calif. Heath McDowell, formerly service manager of PAC's Burbank plant, has been named West Coast manager.

The Chobert rivet is described as being highly resistant to vibration and stress. Johnson said the rivet was used in a new pilots' seat just developed for the Air Force by the Hardman Manufacturing Co. of Los Angeles and in testing the seat to destruction the AN bolts gave way before the rivets.

Expansion of the rivet is achieved by withdrawing the internal broaching mandrel. This forces the rivet to sweli into irregular and oversize holes and results in a tight fastening. There is sufficient tail to give required "tear-out" value. For additional strength or water tightness the rivets can be pinned, giving in effect a solid rivet. With an automatic gun, Johnson said the Chobert rivets can be placed at speeds up to 2,000 per hour. No operational skill is required, he said.

Silicone Rubber Parts

The Stalwart Rubber Co., 176 Northfield Road, Bedford, O., is ready to supply gaskets, diaphragms, sleeves, packings, channel and other molded, ex-

truded, punched, and die or lathe cut rubber parts fabricated from X-6 Silicone rubber stocks. The X-6 stock was developed for low temperature applications. On one-eighth inch thick sections, the brittle points for X-6 silicones, according to ASTM specifications, range from minus 150 degrees F. to minus 170 degrees.

Recommended for installations where continuous temperatures are as low as minus 110 degrees F., the compound is resistant to sulphur dioxide and will withstand the chemical action of liquid ammonia and certain types of Freon. They are resistant to oils and many chemicals and have greater resistance to ozone than any other elastic material, according to the manufacturer.

Plastics Polish

Park Chemical Co., 8074 Military Avenue, Detroit 4, Mich., is manufacturing a new polish for use on plexiglas, lucite, vinylite and other molded or sheet plastics. Known as Parka antistatic Plastics Polish, the new product is used to remove shallow scratches, clean polish, and create a high gloss finish which is free of static. This latter feature makes it possible to polish plastics without creating an electrical charge that will cause dust and dirt particles to cling to the polished surface. The manufacturer claims that even with repeated polishing it will not induce electrostatic charges nor craze or discolor plastic.

Spark Plug Adapter

Electro Products Laboratories, 549 West Randolph St., Chicago, Ill. has introduced a spark plug adapter for pressuregraph testing in combustion type engines. Use of the unit makes it possible to test pressures in the cylinder by merely replacing the standard spark plug with the adapter. In addition to a standard plug, the adapter contains a diaphragm which is acted upon by the pressure. This impulse modulates an electronic circuit.

In associated parts of the system, the voltage signal is amplified and eventually operates an oscillograph. It provides a substantially linear pressure-time curve indication of performance of engines and reveals in terms of pressure versus angular velocity the exact rate of flame propagation during explosion. This Electro Spark Adapter engine pickup is available in 14 or 18 mm sizes with replaceable plug and diaphragm.

Work-Holding Units

Mechanics Engineering Co., Inc., Jackson, Mich., has introduced a new line of work-holding units featuring quick-acting operation and known as the Bar-Lok unit. Designed for use in jigs and fixtures and for positioning in machining, welding, brazing and other assembly jobs, the new unit obtains quick acting action through the use of a radially-grooved, square pressure bar which slides freely through a threaded collar when turned toward the left against a stop.

In this position, the foot of the bar is placed against the work instantly, from a full-open position. The bar is then turned to the right which brings it in contact with the threaded collar, thus applying screw pressure against the work. The Bar-Lok units are available in three series to meet variation in pressure requirements and to provide a range of lengths up to 12 inches. There is a choice of tee or swivel handles, and of square, round or flexible feet.

The Birdmen's Perch

By *Major Al Williams*, ALIAS, "TATTERED WING TIPS,"
Manager—Gulf Aviation Department, Gulf Bldg., Pittsburgh 30, Pa.

LAST CALL FOR PICTURES!

The pictures, as you should know if you're a faithful reader (and if you aren't—g'wan!), are of the last and the best biplane fighter, the F3F Gulfhawk, and the fastest propeller-driven aircraft in the world, the F8F Gulfhawk.

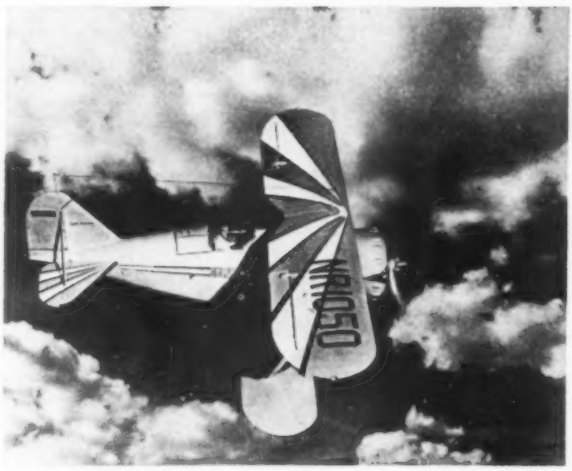
Each of these two 8 x 10 glossy prints is autographed too, because we'll always be mighty proud of this pair of ships—just as we're happy now to pass out the photos to anyone who shares our feeling.

And all you have to do is drop a line to the address above, and we'll shoot them to you with the speed of light.

You might send in a Little Known Fact About Well Known Planes with your request. If you want to be especially nice, that is.

And if we run it, you get one of the prized-more-than-diamonds commissions as a Perch Pilot (bottom rung)!

Well?



COMMERCIAL

All right now, listen to why you should use Gulfpride Aviation Oil—Series D, in that power plant of yours . . .

First, this revolutionary lubricant for horizontally opposed engines is the only one in the world that has had extra impurities removed by Gulf's extra refining step, the Alchlor Process.

Secondly, actual service tests of thousands of hours have proved that Gulfpride Aviation Oil—Series D adds many, many hours of efficient engine performance between overhauls, and materially cuts parts-replacement bills.

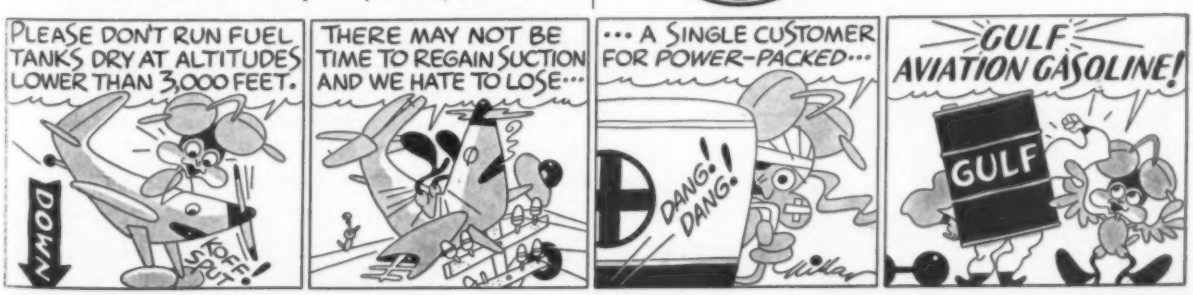
Thirdly (and this is important!), this great detergent-dispersant lubricant helps to unstick the stubbornest valves . . . and helps keep 'em that way!

Tell you what: if you haven't tried Gulfpride Aviation Oil—Series D yet, better go attend to it right now. Then we won't have to sit here at a typewriter telling you all these things that you can discover yourself!

GULF

Gulf Oil Corporation
and Gulf Refining Company
. . . makers of

GULF AVIATION PRODUCTS


PLEASE DON'T RUN FUEL TANKS DRY AT ALTITUDES LOWER THAN 3,000 FEET.
DOWN
STOP-OFF!
THERE MAY NOT BE TIME TO REGAIN SUCTION AND WE HATE TO LOSE···
··· A SINGLE CUSTOMER FOR POWER-PACKED···
DANG! DANG!
GULF AVIATION GASOLINE!
GULF

Ready for *any* emergency... *anywhere!*

Fast, powerful, extremely mobile

Airport Fire and Rescue Equipment

has capacity to handle largest planes

MAXIM-WALTER CRASH UNIT

● 240 hp. Walter Tractor Truck, equipped with 1,000 gal. water and 90 gal. of foam liquid. Discharges up to 4,800 gal. of fog-foam mixture per minute. Accelerates from stop to 45 mph. in less than one minute. Has positive drive in all four wheels to travel swampy terrain or slippery surfaces. Single 16:00-24 low-pressure tires. Fire equipment installed by the Maxim Motor Co., Middleboro, Mass.

WALTER WATER and FOAM SUPPLY TRUCK

● Accompanies crash unit, to provide additional water and foam, if needed. Mounted on 240 hp. Walter Tractor Truck, identical to crash unit. Carries 2,500 gal. of water and 250 gal. of foam liquid, which are quickly connected to crash unit. This combination effectively handles the largest planes now in service. The supply unit is also useful for general fire protection at the airport.

NO MATTER WHERE the emergency occurs—on the runway or off—despite mud, sand, snow or slippery surfaces, these powerful Walter fire-fighting units get there fast and unfailingly, with tremendous fire-fighting power to permit speedy rescue. The exclusive Walter 4-Point Positive Drive assures 100% traction in all four wheels, to travel at high speeds in any running conditions, without wheel-spinning or stalling. For these reasons, the Port of N. Y. Authority specified Walter Tractor Trucks for the above equipment at N. Y. International Airport, LaGuardia Field and Newark Airport. Write for details.

WALTER
TRACTOR TRUCKS

WALTER MOTOR TRUCK CO. 1001-19 Irving Ave. Ridgewood 27, Queens, L. I., N. Y.

AIRPORTS
Including Features Formerly in AIRPORTS AND AIR CARRIERS Magazine

The Need for Emergency Power at Major Airports

By ROBERT C. BLATT

Although a number of terminal airports are equipped with standby engine generators, the large majority of them would certainly be completely unprepared in case of a power failure.

Before the last war, Safety Regulation Release No. 60 was circulated by the CAA for comments from the terminal airports having scheduled airline service. This release included suggested specifications and performance data on an automatic standby emergency power unit for such airports and proposed that these units be mandatory after a predetermined date. Before any further action was taken by the CAA, the war came along and the whole thing was dropped on account of the shortage of strategic materials.

After the war was over, there were several attempts made to revive this regulation—but nothing materialized.

At terminal airports, these standby units should be of sufficient capacity to accommodate the field lights, including the beacon, lights on at least one runway, obstruction lights, wind indicator, approach lights, control tower radio, air carrier ground radio, ILS, GCA, and in addition, some emergency lights in important places around the buildings and on the ramp including control tower, weather bureau, waiting room, stairways, corridors and other places used by the traveling public.

For a large airport (including the new CAA "Slope Line" approach lights) the capacity of the standby unit should be at least 150 to 200 KW.

Consider Future Demand. Smaller terminal airports could probably "get by" with much smaller units, but in view of the rapid growth of the power requirements usually experienced, it would be wise to consider the future demand before buying a small capacity unit.

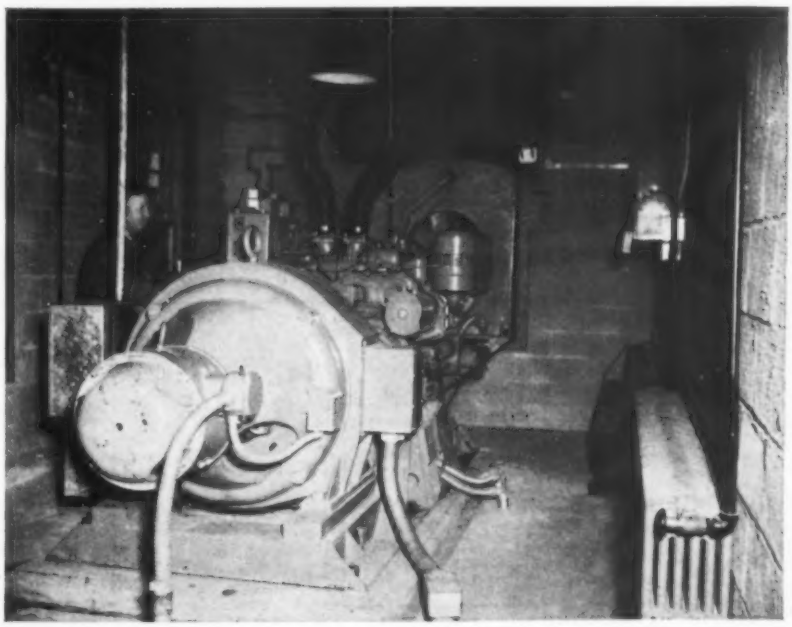
On some of the smaller fields, it may be difficult to justify the expense of a standby generator. In these cases, portable equipment can be resorted to as a temporary measure until a permanent generator set can be purchased.

With the lowering of minimums at terminal airports equipped with high intensity approach and runway lights, ILS, GCA, and other radio and electronic landing aids, it becomes more important than ever that the electric power feeding these all-important aids be absolutely insured against failure. Under low visibility conditions, with a number of planes in the approach pattern, an electric power failure at the airport could easily be disastrous.

Standby Generator. In order to avoid such a predicament, some airports have installed an additional electric power feeder line—coming from a separate source of supply or a separate substation—with an automatic changeover switch which throws on the emergency power line immediately upon failure of the normal supply line. This arrangement is no doubt a considerable improvement over the single supply line, but it is not positive insurance against power failures caused by downed power lines and other causes which would "kill" both incoming power sources.

A properly maintained emergency standby engine generator is the only dependable answer to this problem of providing absolutely continuous electric power at the airport.

A good example of an excellent installation of complete provisions for emergency and standby power at an airport is found at the New York International Airport at Idlewild. The Port of New York Authority recently completed the installation of an automatic diesel-electric standby emergency generator of sufficient capacity to carry the high intensity approach and instrument



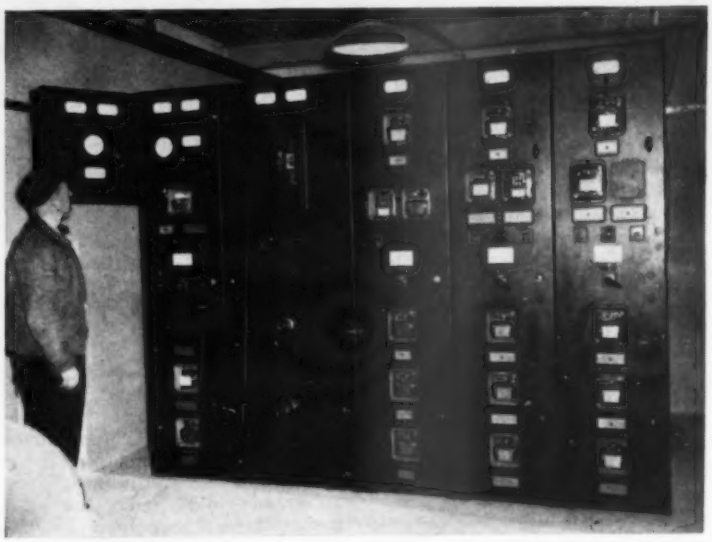
DIESEL-ELECTRIC AUTOMATIC emergency generator installation at the New York International Airport showing the 150 K.W. 2400-4160 volt, 4 wire, 3 phase, Westinghouse Generator driven by a 260 horsepower General Motors Diesel Engine which starts automatically—only after the failure of both incoming service feeders of the Consolidated Edison Co. Generator is brought up to rated voltage within a matter of seconds and is able to accommodate entire emergency load including high intensity approach and instrument runway lights, all radio communications, ILS, GCA, other electronic and lighting landing aids, all building emergency lighting, etc.

runway lights as well as all control tower radio equipment, ILS, GCA, and all other radio, electronic and lighting landing aids, including the emergency lights and EXIT signs in the buildings, weather bureau and control tower.

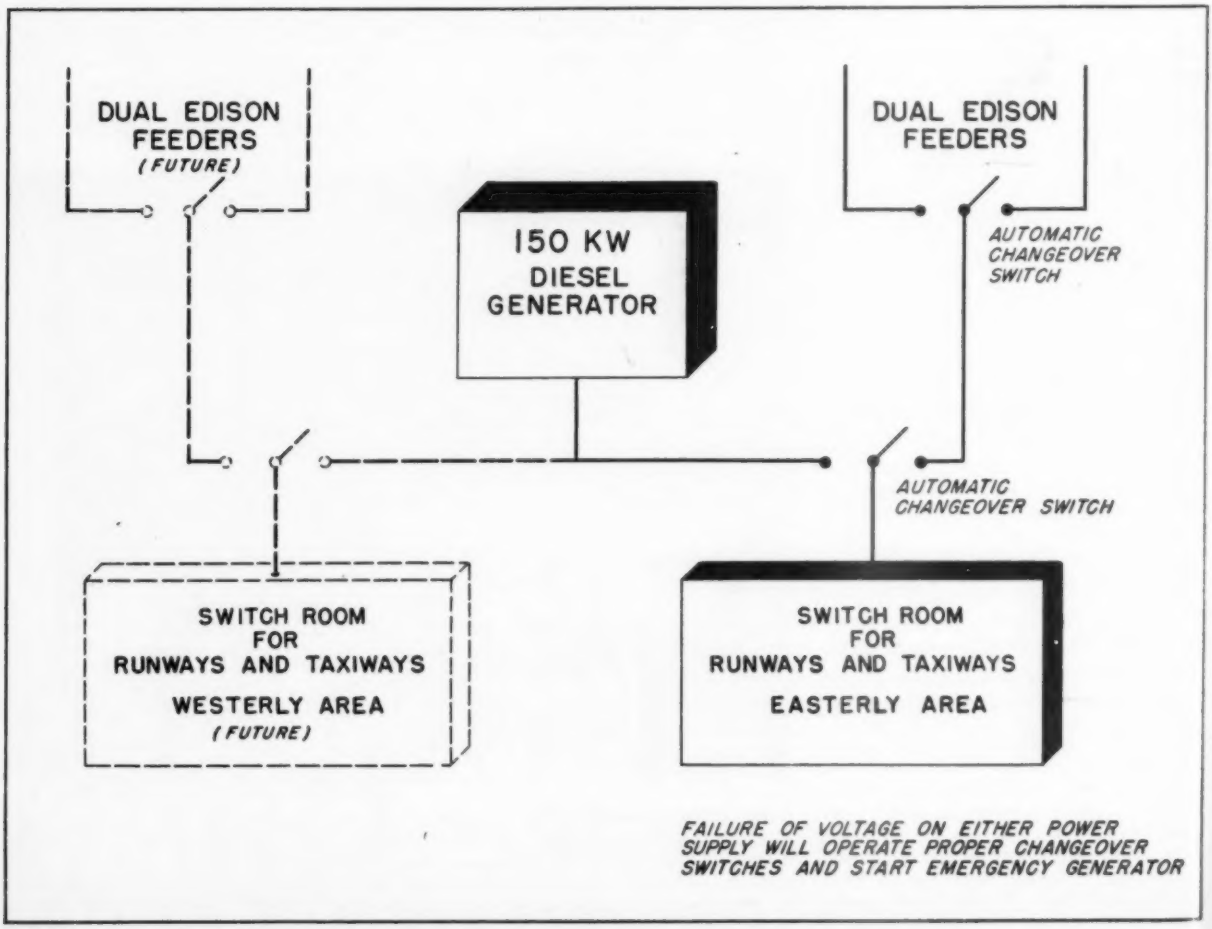
This installation will insure normal and regular operations—without delay and with safety—regardless of storms, fire, flood or other cause which might result in failure of the normal source of power supply.

This engine generator was installed at New York International Airport even though the airport is served by two separate incoming power feeders (with automatic change-over switch) fed from separate substations. The engine starts automatically upon complete current failure and the generator builds up to voltage and is able to carry the entire emergency load within a matter of seconds.

Airline pilots, as well as their passengers, can breathe just a little easier with this extra margin of safety while approaching an airport so-equipped, not only at night but even under daylight conditions when the weather is bad.



EMERGENCY GENERATOR control panel at New York International Airport. Full length panel at left is Generator Panel "E". Next is Regulator Panel with Field and Exciter Rheostats. Next is Con. Edison Power Co's. Panel "D". 4th Panel "F" controls Runway Feeders D, E and F. Panel "C" at right controls Runway Feeders A, B and C.


DUAL EDISON FEEDERS
(FUTURE)
DUAL EDISON FEEDERS
150 KW DIESEL GENERATOR
AUTOMATIC CHANGEOVER SWITCH
AUTOMATIC CHANGEOVER SWITCH
SWITCH ROOM FOR RUNWAYS AND TAXIWAYS WESTERLY AREA
(FUTURE)
SWITCH ROOM FOR RUNWAYS AND TAXIWAYS EASTERLY AREA
FAILURE OF VOLTAGE ON EITHER POWER SUPPLY WILL OPERATE PROPER CHANGEOVER SWITCHES AND START EMERGENCY GENERATOR

MAIN POWER FEEDER and emergency generator connections at New York International Airport are shown in diagram above.

Teterboro Changes Hands; Soon Will Have ILS

With the acquisition last month of Teterboro Airport in Bergen County, N. J., the Port of New York Authority was at last in a position to go ahead with the "full regional pattern" of airport development recommended by the Civil Aeronautics Administration and the Regional Plan Association as required to handle the anticipated air traffic volume of the New Jersey-New York Port District.

The 500-acre airport was purchased from Frederick L. Wehran for $3,115,000, including mortgages totaling $967,000 which were taken over and paid off by the Port Authority, Mr. Wehran got $548,000 in cash, in addition to a previous down payment of $100,000, and took the balance in the Authority's First Series 3% Air Terminal Bonds, due in 1978.

Wehran had bought the field cheap in 1941 and a few months later it was taken over by the Air Force, which made numerous and costly improvements during the four years of tenancy before returning it to him in 1945. Since the war, it has been a busy airport, with an average of nearly 500 plane movements daily, including training craft, non-scheduled cargo and passenger planes, and a considerable number of privately owned aircraft. Considering his investment and the fact that he lacked the capital necessary to develop the airport into a really major terminal, the Port Authority's proposition was a good thing for Wehran.

Good Location. For the Port Authority, on the other hand, it was a worthwhile acquisition. Only about 25 minutes from Times Square, the Teterboro Airport is efficiently located to help accommodate the growing air terminals needs of the metropolitan area. As far back as 1927 an official fact-finding committee had recommended the Teterboro area as the site for a major air terminal in the Port District.

Furthermore, a joint study of regional airport needs undertaken in 1947 by the Regional Plan Association in cooperation with the CAA, the States of New York and New Jersey and the Port Authority, had forecast the need for a fourth major air transport terminal for the area by 1956 and had concluded that "the only site susceptible to the development of a Class IV airport is in the northerly part of the Meadows in Bergen County."

Teterboro Airport has three 100-foot wide runways, two of which are 4,500 feet long and the third 3,000 feet long. It has had a CAA-operated tower since August, 1947, and will soon be equipped with Instrument Landing System facilities.

Give Pilots accurate wind information with Gurley Instruments

Pilots want *and need* exact wind information. All-weather flying increases importance to ground crews, too.

You can give it to them with Gurley wind instruments—accurately, continuously, within 2% over 0-100 m.p.h. range for velocity, 3° for direction. You get instantaneous response to wind shifts, lull or gust conditions. Here's why:

Extra-responsive Cups and Vanes

Cups and vanes are precision-balanced at the Gurley plant—where N. B. S.-approved standard weights and measures are manufactured, too. Separate transmitters and circuits for direction and velocity simplify installation and inspection.

Trouble-free, Weather-proof Construction

Bronze or aluminum for all exposed parts—stainless steel shafts—sealed ball bearings with all-weather lubrication—stable electrical components—aircraft type electrical connectors.

Accurate Multi-station Readings

You get one Transmitter and one Indicator for either direction or velocity—add Recorders and extra Direction and Velocity Indicators as required—at any time.

You'll find complete operation, installation, and performance data in Bulletin 6000—plus information on GURLEY'S PILOT BALLOON THEODOLITE, of special interest to weather stations. It's yours for the asking. Send for it today.

W. & L. E. GURLEY, FULTON ST.—STATION PLAZA, TROY, N. Y.

GURLEY

Gurley Wind Instruments Are Distributed to Airports by Crouse-Hinds Co. Syracuse, N. Y.

Manufacturers of Anemometers, Wind Direction Instruments, Wind Velocity and Direction Recorders, Pilot Balloon Theodolites, Hydrological, Surveying and Engineering Instruments.

NEW STEEL BUILDINGS

in 2 standard sizes

148′ wide x 162′ long—194′ wide x 200′ long

OTHER LENGTHS IN MULTIPLES OF 18 FEET

Prefabricated all bolted steel structures, clear span, packaged for shipment. Complete with bolts, sheet metal cover, tools and electrical lighting assembly—nothing extra required. Design by U. S. Army Egineers.

Available with or without fixed steel ends or rolling door ends.

THESE BUILDINGS ARE NEW — DELIVERY IS IMMEDIATE

Send for Photos and Specifications.

ANDERSON AIRCRAFT CORPORATION

1700 Sawtelle Blvd. LOS ANGELES 25, CALIF.

Delta — Points the way to Southern Markets
W
E
You spend more time selling, less time traveling, when you fly Delta to and through the South. Fast frequent flights to the 36 key cities where Southern business is centered.
General Offices Atlanta, Ga
CINCINNATI
ATLANTA
JACKSONVILLE
NEW ORLEANS
MIAMI
DC-6 EXPRESS SERVICE
Delta AIR LINES
Call Your Travel Agent

AIRPORTS

Airport Program Revised

As required by Congress, the Civil Aeronautics Administration each spring revises its Federal-aid airport program and makes a new three-year forecast of needed airport construction and improvement projects. The new program, made public in mid-April, calls for construction of 2,794 new airports and improvement of 2,183 existing ones.

Total cost of the three-year program would be $1,115,300,000, of which $510,600,000 would be federal funds and $604,700,000 would come from sponsors. It would be difficult to say, however, how much of the program would eventually be carried out. To date Congress has appropriated only $117,500,000 toward the total $500,000,000 it authorized in 1947 when the Federal Airport Act was passed.

D. W. Rentzel, CAA administrator, in filing the report with Congress, said special attention had been given in the new program to the building and improvement of airports for use by scheduled airlines at points certificated by the Civil Aeronautics Board, in line with recommendations of the President's Air Policy Commission and the Congressional Aviation Policy Board.

Airport Briefs

Hangars needn't necessarily be expensive to build. Take the case of **Dewey M. Cable**, owner of the **Cable-Claremont Airport** at Upland, Calif., who recently constructed a double line of 25 T-hangars of reinforced concrete block with steel I-beam supports and flat wooden roofs at a cost of only $272 each, including concrete floors and hangar doors of angle iron covered with surplus dural sheet. The low cost resulted from use of young flying enthusiasts for labor and paying them in flight time. Cable estimates his labor cost was 75c per man-hour. The hangars are all rented at $20 per month.

Charles Jarnigan, Tennessee farmer who last year erected some 320-ft. poles on his property to assert his self-asserted rights in air space over his land, was paid $60 by **Harriman Airport Operators** to remove the poles, which were a hindrance to their operations at an adjacent airport. Now Jarnigan has tried to repeat the stunt, but the airport operators have taken the matter into chancery court.

The Owensboro-Daviess County Airport Board, Owensboro, Ky., is receiving applications for a manager of the new airport now under construction there . . . **Detroit-Wayne Major Airport** expects to have a complete workable unit, with three runways, each 200 ft. wide and from 6,100 ft. to 7,800 ft. long, in operation by July. The entire expansion program for the field is expected to be completed by 1952.

Youngstown Shows How:

Safety Through Enterprise

Municipalities bothered by the inadequacies of emergency equipment and emergency procedures at their airports, and concerned because their budgets cannot provide funds to meet such needs, might profitably borrow some ideas from Kenneth G. Granger, manager of Youngstown Municipal Airport.

Granger, although only 30 years old, has done quite a job for Youngstown since he took over management of the airport in March, 1948, after 18 months as senior agent there for Capital Airlines.

Granger

When he took over, the airport's emergency equipment consisted of two 40-gallon foamite engines mounted on iron-wheeled cart; a 1941 Ford panel truck containing a battery of four 50-lb. CO_2 bottles, two asbestos fire suits, a fire ax, a grappling hook and miscellaneous types of hand fire extinguishers. As for emergency procedures, there were none to speak of.

Enlisting the aid of Earl Hawkins, airport maintenance manager, and the maintenance crew, Granger set about remedying the obvious deficiencies. When a visit to the War Assets Administration revealed that no surplus fire-fighting equipment was available at a price Youngstown could afford, they went to the Youngstown Fire Department and talked the chief into giving them a 1922 model American LaFrance pumper which, despite 26 years of service, still had a dependable and powerful pump and engine and a sturdy frame.

Water Supply. Then arose the problem of putting a water tank on the truck, because the airport's source of water consisted of only a well and one hydrant. The tank had to be specially built to fit the truck, which made it an expensive item, but Granger talked a flying enthusiast, the president of the Sharon Steel Corp., who bases his Lockheed Lodestar at the Youngstown Airport, into building the tank and installing it on the truck gratis. This 500-gallon tank, together with the 100-gallon one already on the truck, gave the truck a good supply of water.

The tank was installed in such a position that the two 40-gallon Foamite engines could be mounted on the front and rear of the truck in a manner so that they could be tipped to a horizontal position for discharge and left upright on the mounts for charging when not in use. This, of course, made the foam engines much more mobile than when mounted on the iron carts.

Six hundred feet of 1½" hose are mounted in a special rack on the running board of the truck, and an additional 300 feet of 1" hose on a continuous flow reel, with adapter couplings available for combining the two into one piece of hose 900 feet long. There also is a short hose which can be coupled to the hydrant and used to fill the tank in about four minutes. Other equipment on the truck includes CO_2 bottles, hand extinguishers, a fire ax, a "can opener" and a 12-foot ladder.

The Ford panel truck was painted red and equipped with two-way radio for constant communication with the airport control tower.

This fixed the airport up with fire-fighting equipment, but there still remained a need for an ambulance. This need was filled by talking the city police department out of a 1926 Cadillac ambulance, which they fitted out with blankets, sheets, first-aid supplies and a coat of paint.

Three for $375. The result of all this finagling and hard work is that Youngstown's airport now has three very serviceable pieces of emergency equipment which cost the city only about $375, most of which was spent for hose. Comparable equipment, if bought new, would cost an estimated $30,000.

Granger then tackled the task of setting up emergency procedures designed to make fullest use of the capabilities of the emergency equipment. Volunteer fire crews consisting of airport employes and personnel of the airlines serving the city were organized, trained and assigned specific duties.

Twenty-eight standard operating procedures were drafted and distributed to everyone on the airport, and each individual was fully acquainted with the role he is expected to perform. Finally, a crash map was prepared which takes in a 25-mile area and describes in detail the shortest routes to any point on the map.

Granger's activities have been highly praised by L. F. Janes, district CAA aviation safety agent, but Granger attributes most of the credit to his maintenance crews and to the parties who donated materials, equipment and time to make the final result possible.

"Many other airports can have as good a set-up as we have at a minimum of expense, if they are willing to work for it," said Granger.

Bargain Emergency Equipment—The three pieces of improvised equipment pictured here give Youngstown (O.) Municipal Airport an emergency set-up which would be a credit to a much larger airport. They cost airport management only $375—plus a lot of work.

PRETESTED IDEAS

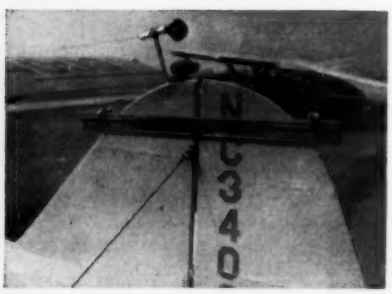
Cone Units Replace Flush Lights

THE FORMER semi-flush contact lights at La Guardia Field have been replaced with cone-mounted elevated runway marker lights using the existing concrete bases. The old type semi-flush contact light heads were removed and disconnecting cutout receptacles installed. Each cone unit has a disconnecting plug which is easily pulled out if the cone unit is struck by a plane and the series circuit is immediately continued.

This installation is a special job built by the Crouse-Hinds Company, especially for the La Guardia Field installation, and is not to be confused with the new CAA standard elevated type runway and strip marker lights (CAA Specification L-802) or the CAA elevated type high intensity runway lights (L-818, 819 & 820).

These units were installed on the non-instrument runways in order to raise the level of the runway lights above ordinary snow falls and grass, and to produce more usable candlepower than the old-type flush units.

Bill Doyle, Crouse-Hinds' New York Engineer is shown in the picture demonstrating how one of the new cone units can be tipped over. Note the heavy disconnecting plug with the protective spring-operated receptacle cover.



Rudder Locking Board

WE'VE SEEN lots of rudders damaged on tied-out planes from being whipped around in the wind. A satisfactory rudder locking board can be easily made from scrap wood in a few minutes. Two wooden boards—long enough to overhang the rudder and vertical fin—are all that is required. A hole is drilled in each board at the center and a bolt inserted. The bolt should be long enough to permit a snug fit on each side of the rudder and fin when the boards are slipped in place. The inside surfaces of the boards should be padded with felt or old carpeting to protect the surfaces of the fin and rudder.

With the boards in position, a piece of rope or leather strap over each end, holding the two together, will insure against slipping out of line. The light weight and small space required by this board permits it to be handily carried in the baggage compartment.

The locking board pictured here was made by our Airport Editor, Bob Blatt, who has used it successfully on his Taylorcraft for the past three years.

Chock Rack

HERE IS a neat and substantial rack for the welded tubing type of chocks which is handy on the parking apron. The frame is made of 1" steel tubing and is painted an orange color for maximum marking effect. Steel hooks, spaced to fit the particular chocks, are welded to the upper members.

Mrs. Lucille Dingley, Manager of the Lewiston-Auburn (Me.) Airport, originated the idea and had the boys in the shop make it up in their spare time, using some scrap steel tubing. Mrs. Dingley reports that this handy rack enables pilots to taxi around the parking apron at her airport without having to dodge around chocks lying promiscuously about the apron—the usual situation at many airports we have visited.

Revised 292.1 Means More Red Tape for Small Operator

By Kieth Saunders

The revised Economic Regulation 292.1 which goes into effect May 20 delivers a hard blow against the Large Irregular Air Carriers, but there is nothing in the new regulation that will hurt the bona fide Small Irregular Air Carrier who tries to operate within the law, in the opinion of Washington observers.

The new 292.1 redefines the Small Irregular Air Carrier, continues in effect most of the exemptions under which he has operated heretofore, and permits him to operate under his present Letter of Registration.

Where the new rules will be bothersome to the small carriers is with regard to Sec. 407, dealing with accounts, records and reports. The small operator, largely exempted from the requirements of this section under the old law, must now file regular reports and tariffs with CAB, must keep his accounts on forms prescribed by CAB, and must have his accounts and property open for inspection by CAB. Failure to comply with these provisions can result in suspension of a carrier's Letter of Registration on 10 days' notice without hearing.

May Prove Nuisance. These requirements will be regarded by the Small Irregular Air Carrier as something of an inconvenience, if not a downright nuisance, but CAB takes the position that it cannot possibly regulate this class of carriers unless it is informed as to their operations, and it found from previous experience that the holders of such Letters were most non-cooperative when it came to furnishing information. That's why the Board chose to put teeth into the filing requirements this time.

Another provision that could conceivably be troublesome, depending on how strictly it is interpreted by CAB, is the prohibition against entering agreements to conduct combined operations which would violate the intent and purposes of 292.1. This by strictest interpretation might possibly be construed as banning an air taxi network such as has been established among fixed-base operators who are members of the National Aviation Trades Association, but it is felt that drafters of the revision had no such intent.

Also provided in the new 292.1 is a section prohibiting issuance of a letter to any small irregular "if certain owners or officials of the company were associated with certain classes of air carriers whose Letter of Registration was suspended or revoked, unless the Board finds there will be no adverse effect on the applicant's operations." CAB said the aim of this was to scotch the method by which certain individuals have evaded the effect of a suspension or revocation by altering the corporate form or by securing another letter.

Summing up, it appears that the revised 292.1 will be a bother to the Small Irregular Air Carrier but will not really hurt him if his operations are legal and aboveboard.

Whitaker Duster Unit Approved for Piper

A. W. Whitaker of Portland, Ore., has received CAA approval for a new duster unit designed for the Piper PA-11. Called the W-49 Aero Sprayer, it includes a number of advanced features.

No seats need be removed nor structural change in the aircraft made for installation. After the original installation, requiring less than one working day, it can be removed in 30 minutes and reinstalled in an hour.

Construction of the 47 gal. tank is 064-ST, baffled for additional strength and surge. It has a large tower screen in the sump and drain plugs for cleaning and draining the entire system. The large filler opening outside the fuselage is low enough to be filled by hand or gravity from a truck without danger of spilling harmful concentrates inside the fuselage. The pump is mounted directly back of the propeller with sealed thrust bearing and improved brakes. Agitation is constant and pressure regulator instantly adjustable. Master shut-off valve is on the control stick.

Flight characteristics of the plane with installation are described as excellent in turns and pull-ups. Drag is reduced to the minimum and dihedral protects the boom in high growth and crosswind landings. Whitaker reports the sprayer is now in production as a companion model to his other duster units.

Washington Operators Adopt Crop Dusting Code

A new crop-dusting and spraying "code" for the state of Washington, proposed by the Washington State Aviation Association, has been approved by the state director of agriculture.

WSAA, a fixed-base operators' group, decided on the code as a measure of "self-policing" to guard the growing dusting industry, as well as the farmers, against damage by irresponsible operators.

Under the code, each operator must now show financial responsibility in case of public liability or property damage. Each plane will bear a department of agriculture license plate.

Earlier announcement of the code proposal brought inquiries from dusters and state aviation officials from all parts of the country, Robert N. Nard, executive secretary of the WSAA, said. Now being discussed is a plan to make the code standard all over the four northwest states, with reciprocal license privileges.

Vaporizing nozzles are suspended under the wings on either side of the Piper fuselage.

CAA Promises More Help For Private Flying Interests

Aim of the newly-created Office of Aviation Development of the Civil Aeronautics Administration is to make CAA more helpful to the non-airline segments of civil aviation, according to a CAA spokesman. The new office came into being May 1.

The office is directed to: "(1) encourage the development and adoption of improved aircraft, equipment and related products, especially for personal and agricultural uses;

"(2) encourage the expansion and improvement of air flight facilities, and the elimination of unnecessary restrictions and regulations hampering aviation;

"(3) sponsor or conduct programs for the establishment of a system of 'skyways' and uniform methods of marking ground objects as visual aids to navigation;

"(4) develop and sponsor programs designed to advance civil aviation through educational means;

"(5) sponsor or conduct programs for the collection and dissemination of flight facility information and data in the interest of safe itinerant flight."

Director to be Named. The office is to be headed by a director who will report directly to the Administrator. He had not been named at this writing, but it was known he would be chosen from present CAA personnel. Under him will be three principal subdivisions: Aviation Extension Division, Aviation Education Division and Flight Information Division.

The Aviation Education Division is headed by Howard W. Sinclair, who has been director of the Aviation Training Section. His program will not be changed much.

Director of the Flight Information Division was to be K. J. Aubry, who has been director of the Flight Information Service. Under him is a Flight Data Branch and a Flight Route Service Branch. The Aviation Extension Division will have a Personal Flying Branch and an Air Route Marking Branch. Blanche Noyes, who has been handling the airmarking program, will head the latter branch.

It was not known at this writing whether Lloyd Child, who has been assistant to the Administrator for Personal Flying Development, would head the Personal Flying Branch or whether he would be named to head the Aviation Extension Division.

Setting up of the new office was essentially a matter of consolidation of related functions heretofore scattered through several major departments and placing them all under one director with the know how and authority to administer them. This regrouping of functions will not result in any personnel reduction, however. Actually, there will be a slight increase, including several persons in the Personal Flying Branch.

New Endurance Record

Two California pilots, Bill Harris, 36, and Dick Reidel, 35, set a new endurance flight record last month, staying aloft well beyond the 726-hour record set in October, 1940 by Wes Carroll and Clyde Schlieper of Long Beach, Calif. Harris and Reidel, both employes of Fullerton Air Service, set the new record in an Aeronca.

Refueling was accomplished by contact with jeeps, from which containers of gasoline and oil were hoisted. Food and water were provided the same way. The flight was started Mar. 15, passed the 727-hour mark on April 14, and was still continuing as this went to press.

Briefing the News

Aeronca Aircraft Corp. has won approval of an RFC loan of $375,000, of which about 25% will be used for purchase of machinery and equipment and the balance for working capital.

Installation of **Hartzell's** new all-metal, hydro-selective pitch propeller as optional equipment on the **1949 Ryan Navion** will show performance increases of approximately 10% for take-off and climb, extensive company tests indicate. Rate of climb with the metal prop is 1,000 ft. per minute, as against 900 fpm for the standard model, and take-off over a 50-ft. obstacle has been shortened to 800 ft. compared with 875 with the standard 1949 prop. Additional charge for the metal propeller installation at the Ryan factory is $136.00.

Abandonment by the Air Force of civilian training for mechanics and pilots, with the consequent abandonment of facilities, organizations, trained personnel and instructors, has been protested to the National Military Establishment by the Florida State Chamber of Commerce.

The Chamber stated that "the policy apparently now adopted by the Air Force of concentrating all training of technical personnel at its own schools is open to serious review because in any national emergency it would again become necessary to reactivate civilian components to do technical training work of this nature."

Exports of personal aircraft of four-place or under for the month of March by 10 companies reporting to the Aircraft Industries Association totaled 45 aircraft valued at $222,924. Totals for the previous month were 41 aircraft and $181,301. Shipments were about 50% below those for the same months last year.

A. E. Ullman has been elected vice president of Metropolitan Aviation Corp., New York helicopter operator. **Paul B. Furlong** was elected vice president-general manager, and **Sidney Gerringer** was elected treasurer of the company.

Aviation Sales and Service

By Robert C. Blatt

'Into Plane' Service: E. W. Wiggins is operating a complete "into plane" service for Pan American, Air France and others at its East Boston (Logan Field) operation. The company handles all fueling, oiling, hydraulic and anti-icing fluid servicing; loading and unloading of all cargo, mail and baggage (after customs) and takes care of putting baggage in cabs. Cliff Fuller, Wiggins' East Boston manager, reports that this service has built up his labor utilization from 60 to 80%. This is the type of service that many fixed base operators located on terminal airports could seek out and probably find receptive ears among the airlines. It's a good tie-in for operators and in most cases it won't require additional personnel.

More Sportsman's Show Sales: *In addition to the four bona-fide "over the counter" sales of personal aircraft reported for the National Sportsmen's Show, staged in New York in February, there were three more recently sold in New England, all traced directly to the show.*

New Television Lounge: There is another new wrinkle for operators at Reading Aviation Service, Reading, Pa., adjoining the flight operations office. A new television lounge keeps many a good prospective flight time customer from leaving early to go home for his favorite television program.

Production Doubled: *Producing four of the new Clippers a day since March first, Piper Aircraft Corp. has recently added 300 employees at their Lock Haven, Pa., plant and doubled production to eight a day. Backlog on Clippers is over 200.*

New Float Jobs: The engineering work for Cessna 170 and Piper Clipper floats has been completed by Edo. Flight tests are scheduled for early May and CAA approval is expected by late May or early June. The new 90 hp. Aeronca 7 CCM Tandem has just been licensed for 1400 floats. The first two Aeroncas will go to the Tarrytown, N. Y. Seaplane Base.

Chief Revenue Source? *A crop dusting conference recently held at the Harrisburg State Airport and sponsored by the Pennsylvania Aeronautics Commission attracted operators from all parts of the State. It was held for the purpose of exchanging information and to eliminate as many problems as possible through advanced instruction on the various chemicals involved and their application to suit agricultural needs better.*

Operators in many parts of the country are now realizing that the agricultural and crop dusting and spraying potential may soon be their chief source of revenue.

Hangar Bird Trouble: This is still a problem with operators. A whole hangar full of newly polished planes can be completely splattered overnight. How to keep sparrows, starlings and other birds from roosting in the roof structural members of hangars is the big difficulty.

A **Rhode Island** operator imported hoot owls and hung their cages around the hangar trusses. It didn't take the offending sparrows long to find out that the owls were caged so the experiment was a fizzle.

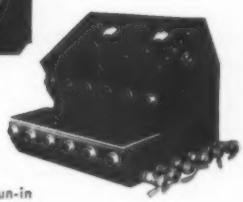
An ultra-high pitched whistle was tried with some success by a **Dayton, Ohio,** operator.

At **Conway, Pa.,** tomato can tops—hung 2 together from strings supported to the rafters were tried. The shiny metal discs moving about with the air currents picking up light reflections and clinking together with a metallic noise proved quite effective. The best idea—but the one requiring the most maintenance (since the air leaked out in a short time) was the use of air-filled toy balloons suspended by 6 foot long strings from the roof trusses. The slight movement of the colored balloons apparently did the trick. The birds just wouldn't roost.

GREER-MADE
Curtiss Propeller
Synchronizer
TEST EQUIPMENT

ST 1304

Synchronizer Timer Test Unit—designed to measure contactor interrupter relay drop-out time and contactor energization time for use in line maintenance or overhaul.

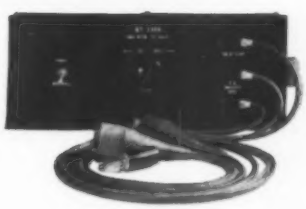


ST 1306

Synchronizer Run-in Test Unit—designed to permit run-in of synchronizer motor and contactors, and complete calibration of synchronizer motor.

ST 1305

Synchronizer Overhaul Test Unit — designed to perform all required overhaul tests except contactor timing and synchronizer motor calibration.



ST 1308

Synchronizer Motor Calibration and Contactor Run-In Unit. Used with ST 1305 to handle small volume of work.

YOUR SYMBOL OF SERVICE

GREER

HYDRAULICS INC.

454 EIGHTEENTH ST., BROOKLYN 15, N. Y.

Domestic Traffic Running Well Ahead of Year Ago

By Eric Bramley

Although all of the final figures aren't in yet, there is no doubt that the domestic airlines, which a year ago were crying the blues, had a very encouraging first quarter.

Sizeable increases will be shown in everything but express ton-miles, which are expected to be less than in the first three months of 1948. Freight ton-miles, on the other hand, will probably show the largest increase.

Comparing the first two months of 1949 with the same 1948 months, and disregarding March (the March, 1949, figures are not yet complete), revenue passengers carried were 261,624, or 17.4%, ahead of last year. Revenue passenger-miles showed a 12.8% increase; mail ton-miles were up 21%, and freight ton-miles 35%. Express ton-miles were down 11.6%. During part of March, there was a Railway Express Agency strike in New York, which will push the express figure down, and raise the freight total.

When March is added, the general picture will be even better. American Airlines, for example, has reported that passenger-miles in March were 37% ahead of the same month last year. Capital Airlines was up 22%. Continental Air Lines said that its first quarter passenger traffic was 14.24% ahead, with passenger-miles up 13.8%.

Safety Element. What accounts for this traffic splurge? Airline traffic men give a variety of reasons. The one that most of them put first is the safety record. The absence of front-page news on airline accidents, they believe, is a big factor. The airlines went through the entire winter season without a fatal accident.

The family fare plan has undoubtedly contributed much. It has pulled passenger-miles during the first part of the week up to where they are in some cases as great as during the traditionally heavy weekends. Aircoach services have lured passengers away from the railroads and added to the airline total.

The public, says one airline man, doesn't have the war jitters as badly as it did a year ago, and people are more inclined to "get off home base" for a while. And business firms, feeling the pinch of competition, have more salesmen traveling. Add to this the fact that airline service is better and personnel are more passenger service-minded, and you can account for a good portion of the increase, the traffic may says.

"And don't forget—success begets success," another official explains. "There's been a lot of favorable publicity recently about how the airlines are in a much healthier condition, making a little money here and there. People like to do business with you if you're successful. It's psychological. If you're losing your shirt and there are stories in the papers every day about rumored bankruptcies, they'll stay away."

It all adds up to a good first quarter, trafficwise, and if April is any indication, the second quarter will also show a sizeable increase over 1948.

Braniff Offers New Courtesy Travel Plan

A "courtesy travel plan" that does not require a deposit to establish an account, and which contains a new feature allowing a subscriber to pay for transportation by check and to cash personal checks up to $25, has been established by Braniff Airways.

Under the plan, a subscriber (and any other persons for whom he authorizes cards) can buy tickets to any of Braniff's 30 U. S. Cities, charge them, and pay the following month.

The courtesy card contract contains no reference to acceptance of checks in payment of online and interline transportation, nor for the cashing of checks up to $25, because some subscribers may not wish to assume responsibility for checks cashed by their employes or other cardholders.

In cases where the cardholder wishes to present the courtesy card as identification for check acceptance, Braniff requires a letter from the subscriber requesting check acceptance privileges. All check acceptance courtesy cards are identified by the code letter "C" embossed on the metal plate.

Here's How Air Travelers Beat 15% U. S. Tax

Planning an air trip from New York to Los Angeles? Want to save $23.68? Have a friend near the Canadian border

Life Size— United Air Lines has inaugurated a new promotional program to merchandise its services, using displays with life-size mannequins. First such display, featuring Hawaii, is in the Chicago loop traffic office. Fresh flowers are flown in every three days from Hawaii for use in the display, which is also sprayed with gardenia perfume to provide a pleasing aroma to those who view it from inside. Other displays will be produced every three months, for use in Chicago, Los Angeles, Seattle, Philadelphia and San Francisco. Condensed versions will be distributed to smaller offices and to travel agents.

drop over into Canada and buy your ticket, either through Trans-Canada Air Lines or from an authorized travel agent. Your trip will then cost you $157.85. Forget about the $23.68 Federal tax. Since Canada dropped its transportation tax, nothing is collected on tickets bought in the Dominion.

It's all strictly legal, according to airline tariff men who should know. And since Canada repealed the tax, the TCA office in Windsor, Ont., just across from Detroit, is doing a land office business. Not only are individuals making the short trip over to buy tickets, but corporations with numerous officials traveling are reported to be purchasing blocks of "open date" tickets between any number of points in the U. S.

One unconfirmed report has it that TCA's Windsor office normally did about $30,000 worth of business weekly, but that since tax repeal at least one week hit $450,000. Assuming the $420,000 increase to be correct and assuming that it's all U. S. business, Uncle Sam missed out on $63,000 worth of transportation tax in one week. It's legal because the location of the issuing office determines whether or not the tax is collected. An airline tariff man states that you can also buy tickets by mail, without making the trip north of the border.

The same thing is reported to be occurring at Niagara Falls, across from Buffalo, at Vancouver, Montreal and other points. U. S. airlines, which have been pushing for repeal of the 15% U. S. tax, aren't frowning on the practice. It's no revenue out of their pockets, and, as a matter of fact, they believe that it's resulting in increased air travel.

Tariffs & Tours

United Air Lines on April 24 will cut Los Angeles-Catalina Island fares in half. New fare will be $3 one way and $5.50 round-trip, plus tax. Limousine fare from Catalina airport to the resort town of Avalon will be reduced from $1 to 75c. The Avalon city council has also decided to deny permits for airline operations in Avalon Bay to carriers not having CAB certificates.

United plans to establish a common fare between the mainland and all Hawaiian islands, effecting fare cuts of as much as 12% to Hawaiian points beyond Honolulu. UAL will establish joint fares with Hawaiian Air Lines and Trans-Pacific Airlines, amounting to $160 one-way and $288 round-trip from San Francisco to islands of Molokai, Lanai, Maui, Hawaii and Kauai. These are the same fares now charged for mainland-Honolulu.

United has announced three all-expense air vacations in the west, first ever arranged by the airline. One is a nine-day Colorado ranch vacation, the second includes Estes and Rocky Mountain National Parks with stops at Chalet Ranch and Grand Lake Lodge plus side trips, and the third is a 16-day trip combining features of the other two.

Over the Counter

By Eric Bramley

Sales Promotion

WHEN **Roy Backman,** sales director of **Western Air Lines,** tells his boys to capitalize on anything and everything to promote sales, they take him seriously. So when vandals broke a window in Western's Portland ticket office (making off, incidentally, with two models of Convair Liners), **Bill Marsh,** Portland district sales manager, plugged the opening with timbers and painted them with huge letters: "Want a break? Fly Western and save 5%."

Credit **Al Aldridge, Braniff Airways'** agency, interline and foreign sales manager, with the neatest timetable trick of the year. Braniff has quite a good patronage of Chinese traveling between South America and San Francisco. So Aldridge had some Braniff timetables made up in Chinese and distributed them over the world wherever Chinese are settled. It's worked out fine . . . And for giving an old timetable a new twist, prize of the week goes to **George Scott,** general sales manager of **Northeast Airlines.** He's taken a plain, ordinary timetable, and by a simple refolding job, has "reduced" the size so that it will fit into a passenger's smallest pocket. Size of the ordinary timetable, folded, is nine inches long by four inches wide. Refolded, it's 4½ by 3¼. One of the nicest jobs seen in a long time . . . Still on the timetable subject, **American Airlines** distributed a very nice convention timetable at the recent Society of Automotive Engineers meeting in New York.

Chicago & Southern Air Lines, at its spring sales meeting, prodded its personnel on telephone sales promotion by copying **Capital Airlines'** idea of calling various reservations offices during the meeting to determine the effectiveness of traffic solicitation by phone. Before placing the calls, **T. S. Miles,** manager of reservations and ticket offices, had each traffic manager give him a one dollar bill. After the calls (two good ones and two bad ones) the managers were handed back one silver dollar each with the admonition "to keep them until the next sales meeting and whenever they feel them in their pockets to remember that negative sales approaches such as were just illustrated by Jackson and Indianapolis will never sell C&S." Sounds like a fine idea, but we ask one question: No small prize for the two good calls?

Enterprising **Delta Air Lines** in April took a group of industrial relations and public relations directors of leading Chicago and Cincinnati firms to Miami for a weekend to "sample" Delta's new low-cost all-expense tour. Company believes substantial business will result from these key people telling their employes about the trip. Delta is offering Chicago-Miami seven-day tour, including choice of three beach hotels, for $164.70 plus tax.

Passenger Service

BRANIFF Airways has instituted postal conveniences for passengers. At all downtown and field ticket offices, the new four-cent air mail postcards and books of six-cent air mail stamps will be made available for passengers. Complimentary stationery, always available on planes, will also be provided at the same locations.

Traffic

UNITED Air Lines has 25 football teams booked for 44 roundtrip flights this fall. Last year 15 teams used UAL to fly to 38 games . . . Capital Airlines had a nice charter in April, flying 177 Ann Arbor, Mich., senior high school students to Washington and back in three DC-4's . . . Even better charter is Bob Hope's second transcontinental personal appearance tour via **United DC-6** . . . **Pan American Airways** now has Boeing Stratocruisers on two roundtrips weekly New York-Bermuda . . . **Colonial Airlines** has increased service to Burlington, Vt., adding two daily northbound flights with an extra on Fridays, and one southbound with an extra on Sundays.

Papers in different colors for Teletype equipment
Route your Teletype equipment papers directly to the interested department . . . different colors for each department.
Link papers, in all colors, are available for every type of communication machine. Dependable quality and equally dependable deliveries.
Link Paper Company
220 BROADWAY ▲ NEW YORK 7, N. Y.

BRANIFF
Now Serving The United States And Six Latin American Countries
Braniff flights within the United States serve 32 Midwest cities and through well-timed connections link them with every major city in the United States and with Braniff's expanding South American system. Through the Houston Air-Gateway Braniff now provides direct, one-company service to and from Cuba, Panama, Ecuador, Peru, Bolivia and Brazil.
HOUSTON
HAVANA
CUBA
BALBOA
PANAMA CITY
GUAYAQUIL
ECUADOR
LIMA
PERU
LA PAZ, BOLIVIA
SAO PAULO, BRAZIL
RIO DE JANEIRO, BRAZIL
For information on travel or shipping call your Braniff office, local airline or travel agent.
BRANIFF International AIRWAYS
LOVE FIELD • DALLAS 19, TEXAS

TWA Plans 26 Atlantic Round-Trips Weekly--Not 52

A double error on the part of TWA resulted in AMERICAN AVIATION for April 15 stating that as of June 1, TWA would be operating 52 round-trips weekly across the Atlantic to foreign points. The figure should have been 26 round-trips.

TWA had informed AMERICAN AVIATION, in a written statement, that starting Apr. 1 the company "will begin increasing its weekly schedules from 34 round-trips each week to a high of 50 round-trips over the Atlantic by June 1." The editors, believing the figure to be high, re-queried TWA asking for confirmation of the figure 50, and confirmation of the term "round-trips." The answer received was that the figure should be 52, and that the term "round-trips" was correct. After appearance of the story, TWA stated that 26 round-trips was the correct figure.

The error, of course, alters the totals and percentages in the story. There will be 110 round-trips weekly by U. S. and foreign carriers across the Atlantic at the peak this summer. The three U. S. lines will be operating 66.4% of total, with six foreign carriers flying 33.6%. The 110 trips will be about 10 less than last summer's 120, but advent of more DC-6's, Constellations and introduction of the Stratocruiser can be expected to result in more seats being available. Including departures from Montreal, the peak trans-Atlantic total this summer will be 126 round-trips weekly.

Traffic Reports

Scandinavian Airlines System carried 24% more passengers to and from New York and Europe during 1948 than in 1947. Total was 15,601 against 12,555 in 1947.

Air France in 1948 carried 7,939 revenue passengers and 404,738 lbs. of freight on its North American operation, against 4,813 and 196,040, respectively, in 1947.

British Overseas Airways in 1948 carried 119,343 passengers, increase of 22.2% over 1947; 3,166 tons of freight, up 68.8%, and 1,720 tons of mail, up 8.6%. Total aircraft operated by BOAC decreased from 140 to 130 during the year; personnel was reduced from 23,000 to 20,800.

Trans Canada Airlines' operating statistics for 1948 included: approximately 20,000,000 revenue miles were flown, 2,000,000 more than in 1947; in domestic service, TCA carried 537,000 passengers, 5,685,000 pounds of mail and 3,722,000 lbs. of cargo; and on overseas flights 31,500 passengers, 223,000 lbs. of mail and 667,000 lbs. of cargo were flown in 1,400 crossings of the North Atlantic.

Passenger miles were up 50% over 1947, while cargo ton miles were up by 110% and mail ton mileage, swelled by the new general carriage of first class mail by air, was up 67%. Further advances were predicted for 1949.

U. S. Domestic Airline Revenues & Expenses for Calendar 1948

AIRLINES	TOTAL OPERATING REVENUES	PASSENGER REVENUES	MAIL REVENUES *	EXPRESS REVENUES	FREIGHT REVENUES	EXCESS BAGGAGE REVENUES	NON-SCHEDULED TRANSPORT REV.	TOTAL OPERATING EXPENSES	AIRCRAFT OPERATING EXPENSES	GROUND & INDIRECT EXPENSES	NET OPERATING INCOME
American	$ 85,744,354	$ 73,756,376	$ 4,652,773	$ 1,880,629	$ 4,321,175	$ 821,168	$ 231,264	$ 87,459,213	$ 40,487,848	$ 46,971,365	$ -1,714,859
Braniff	13,509,310	10,661,171	2,074,277	282,745	264,633	103,301	95,993	12,845,883	6,035,132	6,810,750	663,427
Capitol	23,325,122	15,810,523	4,904,959	623,808	1,103,237	93,401	312,776	22,490,004	9,996,935	12,493,069	835,118
Caribbean	605,649	412,718	161,328	. . . .	18,301	3,655	3,110	602,983	269,663	333,321	2,666
C & S	8,432,241	6,081,590	1,891,989	202,061	119,879	66,632	35,444	7,797,320	3,311,815	4,485,505	634,920
Colonial	3,582,427	2,457,909	1,052,610	20,320	22,519	19,674	7,735	3,556,081	1,513,332	2,042,748	26,346
Continental	4,879,048	3,255,528	1,362,907	39,108	65,759	26,393	73,020	4,598,051	1,981,080	2,616,971	280,996
Delta	14,364,961	10,326,159	3,258,139	268,850	357,075	122,047	8,979	13,173,542	6,013,570	7,159,972	1,191,419
Eastern	65,585,550	58,875,251	2,969,157	1,313,752	1,237,963	946,090	63,388	60,225,590	31,668,110	28,557,479	5,359,960
Hawaiian	4,044,339	3,474,871	27,994	133,660	283,907	93,831	26,570	3,830,008	1,608,854	2,221,154	214,330
Inland	2,270,766	1,563,506	651,196	20,164	21,496	12,701	. . . .	2,090,170	847,868	1,242,302	180,596
MCA	6,919,680	5,495,433	1,208,299	68,626	71,898	44,830	21,995	6,718,062	2,879,223	3,838,840	201,618
National **	7,376,112	5,484,567	1,448,549	115,715	134,167	116,956	7,180	8,942,689	4,796,068	4,146,621	-1,566,577
Northeast	4,644,339	3,241,913	1,272,398	46,910	60,535	12,575	2,593	5,108,924	2,356,819	2,752,104	-464,585
Northwest	23,250,411	18,420,989	3,425,077	601,577	568,827	147,764	48,217	25,890,748	11,878,926	14,011,822	-2,640,337
TWA	61,868,113	49,256,941	7,769,942	1,978,531	1,794,791	610,361	249,486	61,195,631	27,904,281	33,291,351	672,482
United	79,399,589	63,798,053	8,410,708	2,398,384	3,515,365	636,639	252,542	80,930,695	34,621,497	46,309,197	-1,531,106
Western	8,200,866	6,249,689	1,484,550	102,859	165,211	51,205	109,923	8,255,172	3,498,313	4,756,859	-54,306
TOTALS	418,002,877	338,623,181	48,026,852	10,097,699	14,126,738	3,929,223	1,550,215	415,710,766	191,669,334	224,041,430	2,292,108

* Mail revenues include following amounts in retroactive payments: Capital $1,491,906; Inland $75,050; Mid-Continent $183,775; National $329,769; Northwest $2,100,695; TWA $1,761,692; United $1,913,235; Western $975,461. American also received retroactive award, but did not indicate amount included in this report.

** ALPA pilot strike February 3 to November 24, 1948.

U. S. Domestic Airline Revenues & Expenses for Oct.-Dec., 1948

AIRLINES	TOTAL OPERATING REVENUES	PASSENGER REVENUES	MAIL REVENUES *	EXPRESS REVENUES	FREIGHT REVENUES	EXCESS BAGGAGE REVENUES	NON-SCHEDULED TRANSPORT REV.	TOTAL OPERATING EXPENSES	AIRCRAFT OPERATING EXPENSES	GROUND & INDIRECT EXPENSES	NET OPERATING INCOME
American	$ 24,042,743	$ 20,256,361	$ 1,559,986	$ 591,977	$ 1,378,204	$ 215,864	$ 123,926	$ 22,646,043	$ 10,197,552	$ 12,448,491	$ 1,396,700
Braniff	3,619,796	2,802,034	590,645	75,670	75,105	24,453	42,821	3,477,092	1,684,677	1,792,414	142,704
Capitol	7,761,584	4,140,227	2,770,496	170,687	358,287	21,830	171,030	6,019,120	2,636,165	3,382,954	1,742,464
Caribbean	155,770	106,021	39,933	. . . .	5,939	783	600	165,712	75,190	90,521	-9,941
C & S	2,183,683	1,586,552	466,744	52,256	34,784	19,396	18,282	2,004,334	864,216	1,140,118	179,349
Colonial	960,428	612,578	324,010	5,350	9,564	3,583	3,278	1,015,049	423,715	591,334	-54,621
Continental	1,283,681	818,728	354,975	10,621	20,957	5,896	56,793	1,196,687	507,811	688,876	86,994
Delta	3,674,386	2,720,628	736,100	76,065	97,961	29,693	2,839	3,412,120	1,567,009	1,845,111	262,266
Eastern	17,158,069	14,468,042	1,591,969	430,461	373,920	216,528	18,159	15,351,208	7,947,909	7,403,299	1,806,860
Hawaiian	925,005	777,954	10,936	36,314	73,969	22,327	1,258	950,693	415,993	534,700	-25,687
Inland	636,432	403,186	221,610	6,411	8,053	2,994	. . . .	551,575	178,558	373,017	84,857
MCA	1,935,764	1,389,712	486,660	16,431	19,327	11,243	10,567	1,715,373	744,155	971,218	220,391
National	2,634,294	1,865,276	633,784	32,933	38,239	40,604	4,818	2,505,053	1,374,156	1,130,897	129,241
Northeast	1,499,100	718,143	750,442	10,259	13,591	1,594	317	1,225,101	506,105	718,996	273,999
Northwest	6,812,410	4,005,330	2,330,869	177,431	230,492	34,761	26,659	6,405,177	2,995,908	3,409,269	407,233
TWA	17,999,387	12,548,127	3,932,156	619,137	554,218	135,048	179,525	15,991,922	7,073,434	8,918,489	2,007,464
United	22,555,445	15,739,448	4,602,342	701,517	1,043,388	163,505	144,530	21,933,159	9,918,020	12,015,139	622,286
Western	2,661,447	1,580,587	1,086,710	28,097	43,036	11,312	29,706	1,669,090	749,994	919,096	992,357
TOTALS	118,499,424	86,538,934	22,490,367	3,041,617	4,379,034	958,414	835,108	108,234,508	49,860,567	58,373,939	10,264,919

* Mail revenues include following amounts in retroactive payments: Capital $1,491,906; Inland $75,050; Mid-Continent $183,775; National $329,769; Northwest $2,100,695; TWA $1,761,692; United $1,913,235; Western $975,461. American also received retroactive award but did not indicate amount included in this report.

U. S. Feeder Airline Revenues & Expenses for Calendar 1948

AIRLINES	TOTAL OPERATING REVENUES	PASSENGER REVENUES	MAIL REVENUES	EXPRESS REVENUES	FREIGHT REVENUES	EXCESS BAGGAGE REVENUES	NON-SCHEDULED TRANSPORT REV.	TOTAL OPERATING EXPENSES	AIRCRAFT OPERATING EXPENSES	GROUND & INDIRECT EXPENSES	NET OPERATING INCOME
All American	$ 983,607	$	$ 970,137	$ 12,002	$	$	$	$ 1,070,701	$ 584,358	$ 486,343	$ -87,094
Challenger	1,150,074	290,582	840,266	7,182	7,882	1,344	65	1,252,793	609,843	642,950	-102,719
Empire	1,303,352	215,107	1,066,738	2,491	. . . .	1,272	12,090	876,068	450,286	425,781	427,285
Florida	759,335	91,278	655,713	1,588	. . . .	527	. . . .	691,325	332,077	359,248	68,010
Monarch	1,435,070	356,925	1,037,483	6,147	18,667	1,889	3,195	1,474,549	786,475	688,074	-39,479
Piedmont*	1,466,719	540,182	910,068	8,470	4,538	4,079	897	1,464,165	830,351	633,814	2,554
Pioneer	2,984,525	1,300,407	1,548,205	8,523	12,599	7,581	23,663	2,734,398	1,452,033	1,282,364	250,128
Robinson**	195,227	93,236	97,004	. . . .	2,029	180	. . . .	260,173	124,835	135,339	-64,949
Southwest	2,363,753	905,102	1,401,332	12,647	25,451	4,107	12,162	2,278,516	1,189,010	1,089,506	85,237
Trans-Texas	1,552,486	264,687	1,279,473	3,206	3,235	793	. . . .	1,424,065	746,598	677,467	128,421
West Coast	1,023,222	496,861	521,939	5,379	. . . .	1,301	1,487	1,293,985	626,099	667,886	-270,763
W. Central***	704,970	113,649	582,500****	5,963	. . . .	1,012	. . . .	739,648	353,159	386,490	-34,678
TOTALS	15,922,340	4,668,016	10,910,858	71,598	74,361	24,085	53,559	15,560,386	8,085,124	7,475,262	361,953
					Helicopter Mail Service						
Los Angeles	371,634	. . . .	371,634	. . . .	. . . .	. . . .	. . . .	345,942	225,656	120,286	25,692

* Began operations February 20, 1948

** Began operations September 19, 1948

*** Began operations February 24, 1948

**** Included in U.S. Mail Revenue Account 3102 is the retroactive mail payment awarded by CAB on March 1, 1949 to apply to 1948 mail services.

U. S. Feeder Airline Traffic for January

Airlines	Revenue Passengers	Revenue Passenger Miles	Available Seat Miles	Passenger Load Factor %	Mail Ton-Miles	Express Ton-Miles	Freight Ton-Miles	Total Ton-Miles Rev. Traffic	Available Ton-Miles Flown	% Available Ton-Miles Used	Revenue Plane-Miles	Scheduled Miles	% Scheduled Miles Completed
All American	....	....	....	...	3,398	1,614	....	5,012	26,140	19.17	126,501	160,056	79.04
Challenger	1,314	335,000	2,145,000	15.62	3,230	2,560	3,327	42,820	229,551	18.65	107,267	125,984	85.13
Empire	1,853	415,000	1,748,000	23.76	1,508	710	....	41,873	133,000	31.48	83,275	87,792	94.26
Florida	1,043	143,000	551,000	25.95	612	209	....	14,832	59,784	24.81	68,325	68,958	99.08
Monarch	1,397	371,000	2,211,000	16.79	1,753	972	2,567	42,556	159,098	26.75	123,027	156,085	78.69
Piedmont	3,498	815,000	3,841,000	21.21	2,337	1,857	1,283	83,586	356,314	23.45	183,520	206,200	88.45
Pioneer	5,177	1,496,000	6,263,000	23.89	11,053	1,615	2,917	147,310	658,718	22.36	258,930	346,883	73.26
Robinson	2,053	306,000	1,175,000	26.04	1,009	....	1,311	28,389	121,104	23.44	55,963	72,561	75.12
Southwest	6,847	1,301,000	4,261,000	30.53	4,138	2,305	6,731	143,756	426,229	33.73	202,870	206,842	97.68
Trans-Texas	1,833	443,000	3,318,000	13.35	4,774	211	300	46,546	258,849	17.98	158,005	194,308	81.32
West Coast	3,501	442,000	1,995,000	22.17	685	598	....	43,569	177,870	24.49	94,978	102,918	92.02
Wis. Cent.	624	90,000	698,000	12.89	885	907	....	10,316	46,360	22.24	82,492	135,811	60.69
TOTALS	29,140	6,157,000	28,206,000	21.82	35,382	13,558	18,436	650,565	2,653,037	24.52	1,545,153	1,864,398	82.36
						Helicopter Mail Service							
Los Angeles	....	..	...	..	3,320	....	....	3,320	12,931	25.67	28,419	30,237	93.99

U. S. Feeder Airline Revenues & Expenses for Oct.-Dec., 1948

Airlines	Total Operating Revenues	Passenger Revenues	Mail Revenues	Express Revenues	Freight Revenues	Excess Baggage Revenues	Non-Scheduled Transport Rev.	Total Operating Expenses	Aircraft Operating Expenses	Ground & Indirect Expenses	Net Operating Income
All American	$ 243,498	$ ...	$ 239,911	$ 2,835	$	$ ..	$	$ 263,599	$ 142,202	$ 121,397	$ -20,101
Challenger	281,529	70,370	202,530	4,862	3,050	449	....	357,565	173,786	183,779	-76,036
Empire	220,735	56,466	151,645	1,030	....	266	8,809	235,986	126,312	109,675	-15,252
Florida	188,628	23,209	158,248	408	....	118	-876	160,501	63,701	96,800	28,127
Monarch	506,709	86,887	407,334	1,825	4,091	517	1,680	373,675	204,655	169,020	133,034
Piedmont	486,706	186,449	293,316	2,543	2,227	1,286	897	515,515	301,683	213,831	-28,809
Pioneer	918,718	385,635	477,388	3,240	4,851	2,284	12,124	791,993	421,712	370,281	126,725
Robinson	175,667	84,335	87,091	...	1,895	149	....	236,679	115,239	121,440	-61,012
Southwest	593,471	236,261	332,180	5,208	8,486	733	9,215	579,799	308,401	271,398	13,672
Trans-Texas	381,097	106,369	271,932	833	1,204	355	...	479,768	250,749	229,019	-98,671
West Coast	192,265	104,647	85,038	1,543	...	223	846	331,869	161,986	169,882	-139,604
Wis. Central	264,472	32,897	228,764*	2,023	....	304	....	253,615	118,209	135,406	10,857
TOTALS	4,453,495	1,373,525	2,935,377	26,350	25,804	6,684	32,695	4,580,564	2,388,635	2,191,928	-127,070
					Helicopter Mail Service						
Los Angeles	103,779	...	103,779	...	....	....	.	106,759	71,019	35,740	-2,980

* Included in U.S. Mail Revenue for this quarter is the retroactive mail payment awarded by CAB on March 1, 1949 to apply to 1948 mail service.

NOTE: Under CAB filing procedures, the airlines file a cumulative quarterly financial report for October-December in place of a separate statement for the month of December. Traffic data, however, are reported separately for each month.

U. S. Feeder Airline Balance Sheet Data As of Dec. 31, 1948

Airlines	Total Assets	Current Assets	Investments & Special Funds	Operating Prop. & Equipment	Deferred Charges	Current Liabilities	Long-Term Debt	Deferred Credits	Operating Reserves	Capital Stock	Surplus
All American	$ 2,274,556	$ 913,603	$ 365,547	$ 952,833	$ 42,573	$ 257,415	$	$	$ 41,368	$ 513,660	$ 1,462,113
Challenger	497,173	158,124	380	256,108	39,704	326,179	52,489	7,019	....	291,036	-179,550
Empire	553,789	241,795	500	251,341	49,288	74,078	....	3,982	....	562,289	-86,559
Florida	760,509	516,386	19,007	193,168	28,821	103,427	141,591	619	....	109,292	405,581
Monarch	928,495	554,887	1,001	354,647	17,793	375,043	443,000	6,362	....	468,540	-364,450
Piedmont	1,297,270	405,108	188,271	511,051	140,934	321,424	68,160	4,663	14,948	956,000	-67,924
Pioneer	1,400,645	812,283	1,011	501,309	83,839	575,651	....	16,938	....	90,227	717,829
Robinson	1,099,598	140,424	200	576,218	372,905	310,840	590,617	2,554	....	174,988	20,600
Southwest	1,260,671	606,769	5,489	580,174	57,469	259,434	96,690	6,164	48,924	323,830	525,529
Trans-Texas	1,191,385	546,336	98,014	361,821	104,499	244,754	13,566	231	....	1,000,000	-67,165
West Coast	683,424	158,229	....	392,707	132,488	201,885	190,000	4,180	....	187,371	99,988
Wis. Central	893,635	224,656	....	339,744	263,857	282,883	25,400	2,774	....	155,000	427,579
TOTALS	12,841,150	5,278,600	679,420	5,271,121	1,334,170	3,333,113	1,621,513	55,486	105,240	4,832,233	2,893,571
					Helicopter Mail Service						
Los Angeles	366,091	62,503	10	213,301	88,919	97,027	....	....	....	294,000	-24,936
				Figures for Previous Quarters Not Heretofore Reported							
Challenger											
March	482,042	144,216	....	275,736	55,975	314,778	....	349	11,463	289,200	-133,747
June	526,403	186,882	380	247,747	59,489	306,996	....	62,517*	....	289,225	-132,335
September	512,686	172,220	1,706	244,735	52,871	286,018	32,447	454	....	289,705	-95,938
Robinson											
September	1,171,718	145,084	200	571,404	384,234	257,708	615,177	....	....	174,198	124,635

* Includes months of May and June 1948 earned revenue.

Airlines Report Officers' Salaries for 1948

Salaries and other compensation of officers and directors for calendar year 1948 have been filed with CAB by Braniff, Colonial, Continental, Florida, Mid-Continent, Northeast, Northwest, PAA, Southwest, TWA and Western. Increases or decreases from 1947 are shown in parentheses:

Braniff Airways: T. E. Braniff, pres. and dir., $24,000 salary and $2,952 bonus and indirect compensation; R. C. Shrader, v.p. and dir., $15,000 and $1,698; Charles E. Beard, exec. v.p. and dir., $20,000 and $1,671; C. G. Adams, secy.-treas. and dir., $15,000 and $1,434; Hal C. Thurman, gen. counsel and dir., $15,000 and $1,005; O. W. Crane, asst. treas., $7,500 and $625; R. L. Barrier, asst. secy., $6,600 and $550; Ferdinand Eberstadt, dir., $250; Fred Jones, dir., $250; Roger G. Whiteford, dir., $250.

Colonial Airlines: Sigmund Janas, pres. and dir., $18,000; Edward S. Ridley, v.p., $10,000; Alfred M. Hudson, v.p., $10,000 (up $867); Branch T. Dykes, v.p.-oper. and dir., $15,000 (up $1,500); Sigmund Janas, Jr., v.p.-traffic, $9,200 (up $1,600); James F. Gormley, treas., $9,167 (up $2,742); Warren C. Cooper, Jr., secy., $6,375 (up $4,725); Eugene P. Barry, dir., $310 in director's fees; Frank Hartley, Jr., dir., $150; James M. Landis, dir., $270 dir. fees and $2,500 for other services.

Continental Air Lines: Louis H. Mueller, chm. of bd., no salary listed; Robert F. Six, pres. and dir., $29,792 salary (up $2,500), $15,000 bonus and indirect compensation; C. C. West, Jr., v.p. and dir., $14,917 (up $1,084); R. C. Kinsey, v.p., $10,000 (up $5,000); Joseph A. Uhl, secy.-treas., $11,917 (up $1,000); O. R. Haueter, v.p.-oper., $14,958; and Dorothy V. Rylander, asst. secy., $3,510.

Florida Airways: Joseph L. Dyer, pres., genl. mgr. & dir., $12,629 (up $5,546); Marion D. Holman, v.p. & dir., $9,788 (up $278); Oscar Bergstrom, v.p. & dir., $9,831 (up $328); M. J. Brown, sec'y-treas. & dir., $9,471 (down $31.97); and Emery Ackerman, ass't sec'y & genl. counsel, $2,543 (on a fee basis).

Mid-Continent Airlines: Thomas F. Ryan III, chm. of bd., no salary listed; J. W. Miller, pres. and gen. mgr., $24,343.90 (up $4,343.98); J. C. Collins, v.p.-secy., $10,567.03 (up $967.03); J. A. Cunningham, v.p.-oper., $12,617.19 (up $1,817.19); H. W. Coburn, v.p.-traffic and sales, $10,567.66 (up $1,567.66); C. H. Calhoun, v.p.-eng. and maintenance, $10,498.09 (up $1,498.09); W. L. Walker, treas., $8,225 (up $1,975); W. D. King, asst. treas., $5,393.75 (up $606.25); and P. H. Carr, asst. secy., $4,556.25 (up $881.25).

Northeast Airlines: Paul F. Collins, chm. of bd., $1,250 (down $4,750); George E. Gardner, pres. and dir., $6,850 (down $3,150); M. H. Anderson, v.p. and dir., $15,000; R. H. Herrnstein, asst. treas., $7,500; A. A. Lane, v.p., $2,400; Leland W. Miller, v.p., treas. and dir., $1,500 (down $6,277).

Northwest Airlines: Croll Hunter, pres. and gen. mgr., $45,000; E. I. Whyatt, exec. v.p., $20,000; Linus C. Glotzbach, v.p. and asst. to pres., $17,000; A. E. Floan, v.p. and secy., $17,000; K. R. Ferguson, v.p.-eng. and planning, $18,000; W. Fiske Marshall, v.p.-oper., $15,058 (down $2,942); R. O. Bullwinkel, v.p.-traffic, $15,000; L. S. Holstad, treas., $15,000; F. C. Judd, reg. v.p.-Western, $15,000; D. J. King, reg. v.p.-Orient, $18,850 (up $2,592); Charles Stearns, asst. secy., $8,830 (up $830); William J. Eiden, asst. treas., $10,800 (up $650).

NOTE: In addition, NWA's directors received the following compensation: William Tudor Gardiner, $80; Robert M. Hardy, $120; T. E. Irvine, $120; Joseph T. Johnson, $140; Malcolm S. Mackay, $160; Dr. Charles Mayo, $160; Alonzo Petteys, $200; William Stern, $120 and Edwin White, $160.

(*Turn to Page* 56)

A new revision (the 19th) of

AMERICAN AVIATION DIRECTORY

will soon be ready for distribution.

This standard source of correct names, titles, addresses and products is an essential time-saver for busy aviation men.

Nearly 40% of the text of the last edition has been revised to show all changes in the aviation world. Every listing has had a last-minute check with the organization or individual concerned.

Major sections of AMERICAN AVIATION DIRECTORY cover:

Airlines . . . Aircraft and Engines . . . Accessories (including Equipment Buyers Guide) . . . Local Operators . . . Trade Associations . . . Government Agencies . . . Miscellaneous Special Services

Price $5.00 per copy.

Discounts on Quantity Orders

Reserve your copy now for prompt mailing.

American Aviation Directory
1025 Vermont Ave., Washington 5, D. C.

Please send ____ copies of the new 19th revised edition (Spring-Summer 1949) to

Name _____

Company _____

Street _____

City-Zone-State _____

☐ Payment Herewith ☐ Bill Later

WORLD-WIDE distributors of multi-engine transport type aircraft, engines, their components and accessories. Agent for WAR ASSETS ADMINISTRATION. Write, wire or telephone your requirements.

EXPORTERS AIRCRAFT-ENGINES COMPONENTS

FRANK AMBROSE AVIATION COMPANY

General Offices and Export Department: 34-17 Lawrence Street, Flushing, L. I., N. Y.
West Coast Office: Oakland Municipal Airport, Oakland, California
Canadian Office: Frank Ambrose Aviation (Canada) Ltd., Dorval P. Q., Canada
Panama Office: Frank Ambrose Aviation, S. A., Calle Segunda No. 8, Panama City, R. P.
Established 1923 Cable Address: AIRAMBROSE U. S. Export License No. 191

FOR SALE

DC-3 21-PASSENGER AIRPLANES

$8,500.00 and up
(plus 2% Sales Tax)

- Equipped with Wright GR-1820-G-102 Engines.
- Recently removed from scheduled passenger service.
- Airframe and engines approaching overhaul.

"AS IS" MUNICIPAL AIRPORT, TULSA, OKLAHOMA

Address all inquiries to:

AMERICAN AIRLINES, INC.
Att: Director of Surplus Sales
43-02 Ditmars Boulevard, Astoria, Long Island, N. Y.
(Telephone RAvenswood 8-1000)

FOR SALE!

DC-4 (C-54-B-DC) 50-PASSENGER AIRPLANES

$175,000.00 each

plus 2% sales tax

- Equipped with P. & W. R-2000-13 (2SD13G) Engines.
- Recently removed from scheduled passenger service.
- Standard airline interior.

"AS IS" MUNICIPAL AIRPORT, TULSA, OKLAHOMA

Address all inquiries to:

AMERICAN AIRLINES, INC.
Att: Director of Surplus Sales
43-02 Ditmars Boulevard, Astoria, Long Island, N. Y.
(Telephone R Avenswood 8-1000)

Airline Salaries

(Continued from page 55)

Pan American Airways, Inc.: (Note: first figure listed is salary, second is bonus and indirect compensation). Juan T. Trippe, pres. and dir., $20,000 (no change) plus $2,650 (down $400); S. F. Pryor, v.p., asst. to pres. and dir., $26,000 (same) plus $12,450 (down $3,800); H. M. Bixby, v.p. and dir., $13,000 (down $542) plus $7,250 (down $700); H. B. Dean, v.p. and dir., $25,000, plus $12,500 (down $650); F. Gledhill, v.p. and dir., $24,000 plus $10,550 (down $650); Henry J. Friendly, v.p., gen. counsel and dir., $25,000 plus $11,500 (down $1,550); D. S. Ingalls, v.p., $23,014 (down $22) plus $7,000

Erwin Balluder, v.p., $20,166 (down $834) plus $7,000; J. C. Leslie, v.p., $22,500 plus $7,000; J. C. Roop, v.p.-treas., $18,000 plus $3,000 (down $4,000); A. A. Priester, v.p. and chief eng., $20,000 plus $4,000 (down $1,000); W. G. Lipscomb, v.p.-traffic and sales, $20,000 (up $10,333) plus $7,000 (up $3,000); W. L. Morrison, v.p.-Latin Amer. Div., $22,000 plus $10,000 (up $1,000); J. H. Smith, Jr., v.p.-Atl. Div., $18,333 (up $2,333) plus $8,000 (up $1,000); Thomas Wolfe, v.p.-Pacific-Alaska Div., $5,000 (resigned Apr. 1, 1948); W. L. Bond, v.p.-Orient, $22,041 (up $12,041) plus $2,500.

H. Preston Morris, secy. and general atty., $13,000 plus $3,500 (down $2,500); J. S. Woodbridge, comptroller, $18,000 plus $6,000 (down $2,000); Mrs. A. M. Archibald, asst. v.p., $11,191 (up $1,191) plus $3,500 (up $1,000); J. C. Cone, asst. v.p., $15,000 plus $3,500 (up $500); W. J. McEvoy, asst. v.p., $12,000 plus $2,500 (no change); H. H. Berke, asst. v.p., $14,333 (up $333) plus $3,500 (up $1,000); J. H. Towers, asst. v.p., $11,367 plus $1,000.

Amos Hiatt, asst. comptr., $11,000 plus $4,000 (up $500); J. O. Merkling, asst. comptr., (resigned Mar. 1, 1948), $1,833; R. G. Ferguson, asst. treas., $13,999 (down $1.00) plus $4,000 (down $500); E. G. Rothrock, asst. secy., $6,853 (up $853) plus $500 (up $250); J. J. Brucia, asst. secy., $4,300 (up $727) and none; C. F. Adams, dir., no salary and $50 bonus and indirect (down $350); P. S. Bush, dir., $650 (down $300); S. M. Fairchild, dir., $750 (down $200); Robert Lehman, dir., $650 (down $300); E. O. McDonnell, dir., $2,200 (down $50); M. T. McKee, dir., $7,200 (down $100); W. H. Standley, dir., $700 (up $500), and V. F. Taylor, $1,650 (up $1,250).

Southwest Airways: Leland Hayward, chairman of board, no salary; J. H. Connelly pres. & dir., $10,000; T. R. Mitchell, v.p., $9,500; A. W. Johnson, treas. & dir., $9,000; Walter Roche, sec'y & dir., no salary; C. H. Sullavan, ass't sec'y & counsel, $7,200.

TWA: Warren Lee Pierson, chm. of bd. and dir., $50,000 (up $17,614); John A. Collings, v.p.-oper. and dir. $31,619 (up $6,128); E. O. Cocke, v.p.-traffic, $19,575 (up $2,840); A. V. Leslie, v.p., treas. and dir., $26,400 (up $20,900); C. E. Fleming, v.p.-regulatory proceedings, $15,000 (up $1,840); G. H. Clay, secy., $10,867 (up $3,139); Leo R. Gilleran, controller, $15,000 (up $2,834); Lloyd Wright, dir., $400; Palmer Bradley, dir., $900; Powell Crosley, Jr., dir., $100; Noah Dietrich, dir., $700; A. B. Eisenhower, dir., $1,000; Oscar G. Holcombe, dir., $600; Sidney Maestre, dir., $900; Thomas W. Pew, dir., $400; A. D. Simpson, dir., $1,200, and W. S. Talbott, dir., $800.

Western Air Lines: Terrell C. Drinkwater, pres. and dir., $35,000 salary and $100 indirect compensation; Stanley R. Shatto, v.p.-maint. and eng. and dir., $15,000 and $100; Marvin W. Landis, v.p.-service, $10,000 (up $431); Richard A. Dick, v.p.-sales, $10,000 (up $431); Paul E. Sullivan, v.p.-secy., $10,200; D. P. Renda, asst. secy., $6,825 (up $4,677); J. J. Taylor, treas., $9,600 (up $323); Robert H. Purcell, controller and asst. treas., $7,200 (up $6,120); L. H. Dwerlkotte, exec. v.p. and dir. (resigned Feb. 20, 1948), $2,917; C. H. James, v.p.-oper. (resigned Mar. 1, 1948), $2,500; W. A. Coulter, dir., $100, and S. W. Guthrie, dir., $100.

Load-Set Weblock Now Produced by C. J. W. Corp.

The Load-Set Weblock, announced last fall by Pacific Airmotive Corp. of Burbank, Calif., as a simplified and secure means for tieing down cargo (AMERICAN AVIATION, Nov. 15, 1948), is now being produced by the C.J.W. Corp., cargo safety engineering firm of North Hollywood, Calif.

Harding Devices Co., 4412 Lovers Lane, Dallas, Tex., headed by Jack Harding, has been appointed distributor in Texas for the new device.

count on

Clary for

AIRCRAFT CONTROL BEARINGS, ROD-END BEARINGS AND PULLEYS

Large stocks lubricated to current AN specifications.

HARDWARE

Bolts, Cable, Clamps, Cotter Keys, Fittings, Gang Channel, Nuts, Nuts, Self-locking, Pins, Clevis, Pins, Taper, Rod Ends, Screws, Turnbuckles, Valves, Washers

RELUBRICATION SERVICE

Bearing and Pulley Relubrication to Current AN (AN-G-25) or Commercial Specifications.

REPRESENTING

The Lamson & Sessions Co., Cleveland, Ohio
Bolts, Nuts, Screws (Aircraft Quality)

George K. Garrett Co., Inc., Philadelphia, Penn.
AN Washers and Lock Washers

The Atco Pulley Co., Pennsylvania
Aircraft Control Pulleys

Clary MULTIPLIER CORPORATION

AIRCRAFT HARDWARE DIVISION

425 E. 54th Street Los Angeles 11, Calif.
Telephone CEntury 2-9221

Classified Advertising

The rates for advertising in this section are as follows: "Help Wanted," "Positions Wanted," "Aircraft Wanted or For Sale," and all other classifications $1.00 a line, minimum charge $4.00. Estimate bold face heads 30 letters and spaces per line; light body face 40 per line; box numbers add two lines. Terms, cash with order. Forms close 20 days preceding publication date. Rates for display advertisements upon request. Address all correspondence to Classified Advertising Department, AMERICAN AVIATION PUBLICATIONS, 1025 Vermont Avenue, NW., Washington 5, D. C.

FOR SALE

FIVE DC-3A's

FOR SALE

•

21 Passenger Complete Airline Airplanes, nice interior in color tones of white, grey, blue and burgandy. All five identical with zero time, up since major overhaul. Complete airline radio and instruments. Always owned and maintained by us.

For price and information write:

R. G. SCHORLING
Director of Purchasing
Continental Air Lines, Inc.
Stapleton Airfield
Denver 7, Colorado

New Matched Sets C-47A WINGS

Also cargo doors, beam supports, wing tips, and various other wing panel sections.

Marvin A. Northrup Aeroplane Co., Inc.
500 Washington Avenue, North Minneapolis 1, Minn.

HELP WANTED

NEED A PILOT? NEED A JOB?

Are you qualified to fly the Atlantic, to instruct, to fly charter, to dust, or to help organize a new airline? We can help you find the job you need, or the man you need. No registration fee. PILOTS EMPLOYMENT AGENCY, Box 152, Whippany, N. J.

CUSTOM-BUILT SCALE MODELS

Precision constructed miniature models made for airlines, aircraft manufacturers and industrial designers. Ideally suited for engineering work and for personal and business gifts.

Any type model made on request . . . Prompt service on special and rush orders . . . All work guaranteed . . . Attractive discounts on quantity orders . . . Firm bids given on all quotations.

Inquiries are invited and all data submitted held in strictest confidence.

Shown above is an unretouched photo of a 31" model of the Martin 2-0-2 Custom-Built for an Eastern business firm. (Note wealth of realistic and authentic detail on this miniature airplane.)

CHRISTIE BATLAS & CO.
P. O. Box 160-V Morgantown, W. Va.
"Realism in Miniature"

EXECUTIVE B25J

FOR SALE

NL licensed, 8 place, new engines zero time, plush cabin interior, A-1 condition, airline radio and instruments, always hangared and maintained by skilled airline mechanics, includes four (4) spare engines, miscellaneous accessories, cowling, control surfaces and spare parts.

Price $45,000.00

For further details and pictures phone, write or wire:

R. G. SCHORLING
Director of Purchasing
Continental Air Lines, Inc.
Stapleton Airfield
Denver 7, Colorado

WORLD'S PREMIER AIRPLANE FABRIC

LIGHTER STRONGER SMOOTHER

FLIGHTEX

FLIGHTEX FABRICS, INC. • 93 WORTH ST. • NEW YORK 13, N. Y.

Leading Manufacturers of Fabric and Tapes for the Aircraft Industry

FLIGHTEX FABRIC

Export Representative AVIQUIPO, Inc. 25 Beaver Street, N. Y. Cable Add.: Aviquipo

Advertisers In This Issue

ADVERTISERS	Page
Frank Ambrose Aviation Company	56
Anderson Aircraft Corporation	44
Aviation Maintenance Corporation	48
Beech Aircraft Corporation	21
Bendix Aviation Corporation Products Division	23
Scintilla Magneto Division	35
Boeing Airplane Company	10
Braniff International Airways	52
Clary Multiplier Corporation	57
Curtiss-Wright Corp., Propeller Division	5
Delta Air Lines	44
Dinkler Hotels, Inc.	33
Esso Standard Oil Company	2nd Cover
Flightex Fabrics, Inc.	57
The Galion Iron Works & Mfg. Co.	3rd Cover
The Goodyear Tire & Rubber Company	3
Greer Hydraulics Inc.	49
Gulf Oil Corporation	39
W. & L. E. Gurley	43
Link Paper Company	52
Lockheed Aircraft Corp.	30, 31
The Glenn L. Martin Company	19
Northwest Airlines	9
Republic Aviation Corp.	28
Russell Uniform Company	33
Surface Combustion Corporation	34
The Texas Company	4th Cover
Tulsa Municipal Airport	36, 37
United Air Lines	32
Walter Motor Truck Company	40

WINGS OF YESTERDAY

25 Years Ago

The Curtiss Aeroplane and Motor Co. offered to sell to the War Department its plant at Garden City, L. I., N. Y. with its entire equipment and including 20 acres of ground, for sum of $1,000,000.

•

George P. Tidmarsh, special eastern representative of the Boeing Airplane Co. of Seattle, Wash., was elected to the board of governors of the Aeronautical Chamber of Commerce, succeeding Lawrence B. Sperry.

10 Years Ago

In American Aviation

In a surprise move, Jack Frye, president of Transcontinental & Western Air, and associates obtained full control of the company by purchase of all the stock interests of John D. Hertz, Lehman Brothers, and the Lehman Corp. The action placed management control in the hands of three men who had started the airline on a shoestring—Frye, Paul E. Richter, and Walter Hamilton.

•

CAA disapproved an agreement between Pan American Airways and American Export Airlines, involving a division of European areas to be served by each company. Such agreement, CAA ruled, might lead to a monopoly and is not in the public interest.

•

Lockheed Aircraft Corp. announced that a new twin-engined 12-passenger transport, to be known as the Electra, would be ready for flight testing in about seven months.

LETTERS

Consider the Little Man

To the Editor:

With National Airlines at the great new airport called Idlewild, we no longer say "Yes sir, claim your luggage at the main entrance." We merely say, "Claim your luggage just beyond the second pop-corn machine on the left" or "Telephones? Yes sir, around the corner across from the silk stocking machine." So in a large terminal the vending machines do come in handy.

While I'm on the subject of Idlewild airport, I would like to direct a hint to the great engineers, draftsmen and planners of not only Idlewild but of all modern airports. Please gentlemen, when planning future airports, call in an airline ticket agent, an operations agent, a porter, a sweeper and a ramp worker for a few down to earth ideas such as door-ways and passage ways large enough for baggage carts and equipment, passenger loading facilities direct from terminal buildings, assembly line system of unloading baggage direct to baggage claim rooms and thousands of other little things that the little men of an airport know about and big men overlook.

Don't let anyone forget that the airline passenger is the only person paying us airline employees' salaries and to treat him accordingly.

H. C. PETERSON, JR.,
Senior Agent
Field Ticket Counter
Idlewild

High Fares & Low Selling

To the Editor:

I read with great interest the well-presented version of the skit Capital Airlines put on for their employes at the sales meet. If the show was put on with expectations of the result, it was a great success. If it is to be used as a sales promoting scheme, it will prove a failure. No doubt it will produce some results in the immediate future: traffic managers, reservationists, and ticket sellers will be on their toes for a few weeks, but after the pep talks and tongue lashings are over, everything will revert to the old routine.

Why not look now a little bit deeper and find the real trouble? What is necessary to prove that air travel is highly competitive in a very restricted field? What inducements are offered for the super salesman and saleswomen needed for the job?

What other common carrier restricts its service only to first class? Do the railroads or steamship companies? How many more tourist and third class tickets are sold over first class? Airline fares parallel those of railroad Pullman, but now many people travel Pullman, even for great distances. This is the element all airlines are competing for while millions are waiting for air coach service. This the airlines are now grudgingly giving. The common man can get this service if he wants to travel on certain days, or in the middle of the night. WHY, when coach service has proven so popular, even under these restrictions, is more and better coach service so slow in coming?

In the airline industry itself, how many of those with better than average positions can afford air travel. These people are acquainted with all the advantages; they know that it is safe, dependable, faster, but still these people do not fly, because they cannot afford it.

If a selling job is needed, who is going to do the selling job? Good salesmen are not made overnight, nor with a few pep talks. How can the ticket sellers sell the passengers on the advantages of air travel, when they themselves have never used it? How many good salesmen would look to the airline industry for positions? Good salaries are paid to the airlines' pilots, mechanics, and top administrative personnel, but what about the employes who meet the customers, who bring in the customers. For the money airlines pay reservationists, ticket sellers, and even some traffic managers, they can expect to get little more than ORDER TAKERS.

EDWARD G. BEALE
Station Manager
Peruvian International Airways
Washington, D. C.

BOOKS

AIRCRAFT ELECTRICAL SYSTEMS, HYDRAULIC SYSTEMS, AND INSTRUMENTS, by Col. R. H. Drake. Published by The MacMillan Company, College Dept., 60 Fifth Ave., New York. 393 pages, illustrated. Price $5.60.

This is the fifth of a seven volume series by Col. Drake, former chief of the airman agency unit of CAA and senior technical examiner for the Civil Service Commission. With its scope limited to three subjects, the book is able to cover each a little more thoroughly than books devoted to the whole field of aircraft mechanics. The book uses a sizeable portion of manufacturers' photographs and drawings in describing the individual units and systems in a manner suited to training of mechanics and pilots.

New Publication

The asphalt Institute, 801 Second Ave., New York 17, N. Y., has started publication of *Asphalt Institute Quarterly* designed to make widely available information on the economic and technical advantages of asphalt. It is a free, controlled circulation magazine, and does not accept advertising. Ernest M. Bristol is editor.

OBITUARY

Art Chester

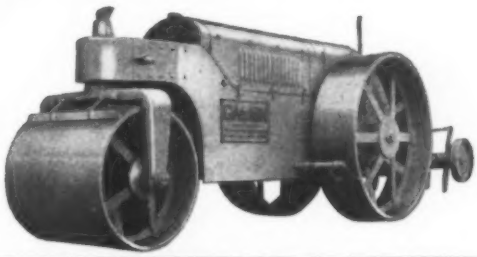
Art Chester, 49, well-known racing pilot, was killed April 24 while participating in the first annual American Gold Cup air races at San Diego, Calif. He was flying a Chester Special. A pilot since 1923, Chester had been racing for many years and was president of the Professional Race Pilots' Association.

GALION

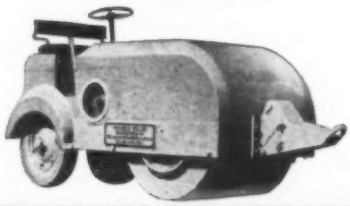
-an Old Name that Stands for the Newest and Best in

ROLLERS and GRADERS

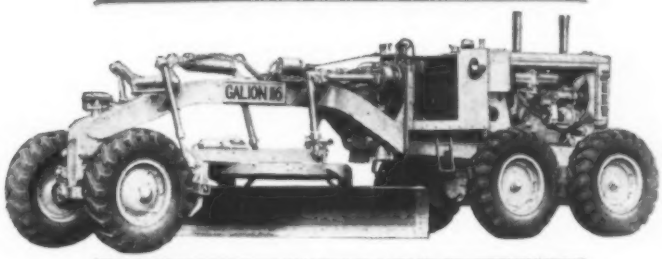
TANDEM ROLLERS, Four Sizes—
variable in weight from 3 to 14 tons.



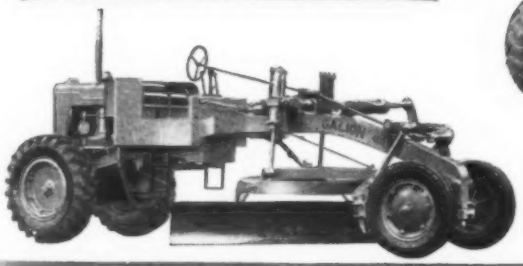
THREE-WHEEL ROLLERS, Five sizes—
6, 7, 8, 10 and 12 tons.



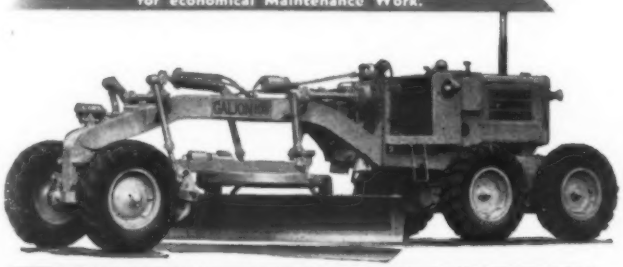
PORTABLE ROLLERS
for Patching and Odd Jobs.



NO. 116 MOTOR GRADER, 100 H. P.
for Extra Heavy-Duty Service.



NO. 402 MOTOR GRADER, 31 H. P.
for economical Maintenance Work.



NO. 103 MOTOR GRADER, 76 H. P.
for Heavy-Duty Service

In the heavy construction field -- among contractors, engineers, and users who know equipment best -- GALION Graders and Rollers have long been regarded as being tops in performance, dependability, and profitable service.

Write for literature on the type of equipment in which you are interested -- and the name of nearest Distributor.

THE GALION IRON WORKS & MFG. CO.
General and Export Offices
Galion, Ohio, U. S. A.
Cable Address: GALIONIRON, Galion, Ohio

GALION

Estab. 1907

GRADERS · ROLLERS

BRANIFF INTERNATIONAL AIRWAYS links Chicago with the Southwest and South America . . . flies more than half a million passengers and over a million ton-miles of cargo annually. Braniff holds 15 National Safety Council Awards, proof that its "meticulous maintenance" pays off. *Engines of all Braniff planes are lubricated 100% with Texaco Aircraft Engine Oil.*

Simpler, Lower Cost Maintenance

Airlines everywhere are gaining greater efficiency and economy with Texaco's simplified lubrication plan.

AIRLINES base their preference for Texaco principally on two factors: 1) Texaco quality and 2) Texaco Lubrication Engineering Service.

Proof of Texaco quality can be set forth in just twenty words: *More revenue airline miles in the United States are flown with Texaco Aircraft Engine Oil than with any other brand!*

Proof that Texaco's simplified lubrication plan really works is found in the increased efficiency and lower maintenance costs reported by airlines using it — most of whom need *only seven* Texaco lubricants to handle all their lubricating jobs.

Let Texaco Lubrication Engineering Service help you simplify your lubrication procedures. Just call the nearest of the more than 2300 Texaco Wholesale Distributing Plants in the 48 States, or write The Texas Company, *Aviation Division,* 135 East 42nd Street, New York 17, N. Y.

TEXACO

TEXACO Lubricants and Fuels

FOR THE AVIATION INDUSTRY

Tune in . . . TEXACO STAR THEATRE presents MILTON BERLE every Wednesday night. See newspaper for time and station.